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✓ NATIONAL CRUDE OIL SUPPLY AND TRANSPORTATION  
ACT OF 1977

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95-1

HEARING

BEFORE THE

COMMITTEE ON COMMERCE,  
SCIENCE, AND TRANSPORTATION  
UNITED STATES SENATE

NINETY-FIFTH CONGRESS

FIRST SESSION

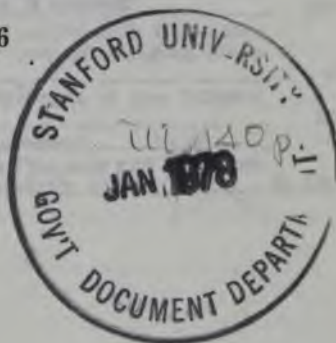
ON

S. 1868

TO EXPEDITE ISSUANCE OF FEDERAL PERMITS AND  
DEVELOPMENTS OF A TRANSPORTATION SYSTEM TO MOVE  
ALASKAN CRUDE OIL TO NORTHERN TIER AND OTHER  
INLAND STATES, AND FOR OTHER PURPOSES

SEPTEMBER 14, 1977

Serial No. 95-46



Printed for the use of the Committee on Commerce,  
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## NATIONAL CRUDE OIL SUPPLY AND TRANSPORTATION ACT OF 1977

WEDNESDAY, SEPTEMBER 14, 1977

U.S. SENATE,  
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,  
*Washington, D.C.*

The committee met at 9:04 a.m. in room 1224 of the Dirksen Senate Office Building; Hon. John Melcher presiding.

### OPENING STATEMENT BY SENATOR MELCHER

Senator MELCHER. The hearing this morning is on S. 1868, a bill to expedite the clearance of Federal permits for pipelines built within the United States, and to take care of the crude oil surplus on the west coast, that will develop with the flow of Alaskan crude from the North Slope to the Alyeska pipeline, to Valdez. But the pipeline proposals involved are not just for Alaska crude. They are to move crude oil of any type from the west coast to inland States, crudes that are desired in refineries to have sufficient oil to keep those refineries in operation.

There are two pipelines that have been proposed and that are in the process of receiving Federal permits. They are Northern Tier from Port Angeles, Wash., to Clearbrook, Minn., and Sohio's pipeline from Long Beach-San Pedro area to Midland, Tex. Along with the flow of North Slope oil there is also the question of other domestic oil, such as the Elk Hills reserves.

Now, despite the fact that many refineries in inland States are having desperate times getting sufficient crude stocks to meet their runs, there is developing a surplus of oil on the west coast. In the case of my State, Montana, where our refineries have been, and are yet dependent on supplies of crude from Canada, we are getting increasing curtailments of availability of Canadian crude.

Our State is not alone in that regard. Other Northern Tier and Midwest States are experiencing difficulties in arranging for sufficient supplies of crude.

If a pipeline was built in the United States in areas where no public land was involved, it would be a much simpler procedure to start construction of those pipelines and to go ahead and build. In the case of Sohio and Northern Tier, both propositions have to depend on clearance of Federal permits. That's why S. 1868 was introduced. There are about 20 of us in the Senate that have cosponsored the bill. Similar bills have been introduced in the House of Representatives and it seems to us that it's absolutely essential that we expedite these Federal permits.

While in each instance there are State permits that are also necessary, S. 1868 does not in any way preempt those States' right or authority over their own State permits. It takes about 2½ years to clear an environmental impact statement and get the necessary Federal permit to start construction of a pipeline that crosses public lands.

We find that that time frame is so extensive and so far in the future it places in doubt when the permits could be finally cleared.

Again, I am speaking about Federal permits. S. 1868 seeks to place the issuance of Federal permits in a time frame where the applicants can build these pipelines with private money, private industry, can proceed in a timely manner, to serve the needs of refineries that desperately need crude supplies and need to know now where these crude-supplies will be coming in 1979, 1980, and the years after that. In the case of Sohio, the environmental impact statement has been reviewed and is virtually completed. The issuance of Federal permits may be cleared very shortly.

That also applies to the States permitting process for Sohio in the State of California. Yet the question then arises, what about judicial review?

S. 1868 also seeks to look at that, and to expedite any such claims through the Federal courts, in order to put a time frame on when actual construction could start.

For Northern Tier, the application for the Federal permits was filed in April of this year. If it was going to take 30 months from that time to clear the Federal permits, you could see that we would be talking about late 1979.

While we have no desire in S. 1868 to preempt the State of Washington on its State permits, it would seem to us that the State of Washington can probably clear up any discussion and any consideration of the State permits concerning Northern Tier prior to the time when they could expect to have clearance from the Federal permits, and therefore, the need for a shortened, a telescoped time for the issuance of the Federal permit.

We would like to see in both instances the possibility of the start of construction of each pipeline by spring next year, or at least the summertime of next year. If we could give that assurance to these companies, we would feel much better about having a long-term solution to the surplus of crude oil on the west coast.

I think it can be said in the case of Northern Tier, that this is a classic example of a relatively small independent pipeline concern, attempting to solve through private industry a problem that is about to hamper the country in domestic crude oil surplus. But also, it would make available to refineries in Northern Tier States and Midwest States the opportunity of getting foreign crude at a decent tariff.

They are hampered because of redtape. They are hampered because of the requirements that Congress has placed on our agencies, in handling such applications, so we are attempting to correct that.

Now, Sohio has somewhat of a different proposition, as I mentioned before. To better zero in on their condition, and in fact to perhaps provide a more definitive answer than S. 1868 gives as introduced, I have introduced an amendment, which is available for the committee and for the public to consider. It treats perhaps even more expedi-

tiously the problem that we are posed with. It varies in two regards, primarily the amendment does, as did S. 1868, as introduced. It specifically takes note of the fact that the Federal procedures, the permits for which Sohio has progressed farther than has Northern Tier's application, because Sohio filed it earlier.

We take note of that in this proposed amendment. Furthermore, we do not deny judicial review as S. 1868 does not deny judicial review, but it goes at it in a little different manner. It allows the claim to be filed in the district Federal court, than expedited through the Federal process, through the Federal judiciary to the Supreme Court. That is patterned after the Trans-Alaskan Pipeline bill. Perhaps that is a superior method of handling any claims that might arise from the issuance of these Federal permits.

I can't stress too heavily the responsibility of Congress when faced with a problem of having to address it. We are attempting to do that in this bill, and in the proposed amendment.

I hope that the hearings will lead to consideration of the bill promptly and the Chairman, Senator Magnuson, has a statement for the record at this point.

[The statement follows:]

**STATEMENT OF HON. WARREN G. MAGNUSON, CHAIRMAN, SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION AND U.S. SENATOR FROM WASHINGTON**

Today the Committee is conducting a hearing on S. 1868, the National Crude Oil Supply and Transportation Act of 1977, as introduced and proposed to be amended by Senator John Melcher of Montana.

This is the first day of a 3 or 4 day series of hearings on the general subject of transportation of Alaska oil, which is excess to consumption needs on the West Coast, to the "northern tier" and midwest States. It is expected that the Committee on Commerce will conduct its later hearings jointly with the Committee on Energy and Natural Resources. No firm dates for these hearings have been established.

Today's hearing is not expected to examine all the ramifications of this transportation problem. For instance, no witnesses have been invited from the State of Washington where there is a major public debate over the location of a ship terminal for two competing west to east pipeline proposals. Such witnesses will be invited at a later time.

Senator METCHER. I will ask Senator Stevens from the State of Alaska, who is very knowledgeable on this matter, to offer his comments at this time.

**OPENING STATEMENT BY SENATOR STEVENS**

Senator STEVENS. Thank you very much.

I do have a statement that I would like to have printed in the record at this point.

I do appreciate your leadership in introducing this bill which I have cosponsored; because it is a significant step that must be taken. If two pipelines are to be built, I certainly have support for the construction of both pipelines; and I think it's important that we keep in mind some perspective concerning why they are necessary.

They are necessary because of the increased crude oil that's available on the west coast, not only from Alaska but from offshore, and also because the oil that we are producing in Alaska will soon be surplus to the refinery capacity on the west coast.



The Northern Tier pipeline that you have suggested would in fact provide for substantial crude oil for the surplus Northern Tier and midwest States refinery capacity that has been created by the curtailment of exports of crude oil from Canada to these States.

We do have a problem with the Sohio project which proposes to transport surplus Alaskan crude oil from California to Texas. I am glad to see that you have introduced your amendment. It does seem to me that we may have to go a little further, because there may well be the necessity for federal intervention in the State processes in California relative to the Sohio project.

The Senator from Illinois, Mr. Stevenson, and I held hearings a year ago in California and I don't perceive any progress since that time. There seems to be a lot of motion but there is not much progress with regard to the Sohio project.

I am informed the Department of Interior will soon issue its right of way permit for that project and that the FPC will make its final decision on October 12 on the El Paso gas pipeline abandonment. A coastal zone management plan, I understand, is being expedited. But there remains the problem of the application of the Clean Air Act by the California agencies, as far as the Sohio project is concerned.

The difficulty with the action so far, as I understand it, is that the so-called trade-offs that have been requested by that agency with regard to the Sohio project have now reached the point that the cost of those trade-offs is almost as great as the cost of the pipeline itself. I needn't tell the chairman, I'm sure he realizes that those so-called trade-offs will become a cost of transporting Alaska's oil and ultimately will reflect themselves in the price of that oil. The wellhead price is a point at which the State of Alaska derives its interest through a one-eighth royalty interest and we are concerned that the trade-off costs will depress this wellhead price.

We will not condone or consent to exorbitant costs for nontransportation items as far as the pipeline is concerned. I would like to remind everybody that the State of Alaska has substantial authority in its conservation statute to regulate the production of this oil.

If we get to the point where the oil is going to be worth less as it comes out of the ground because of costs imposed by the State of California or others, then I think my State has the right and duty to make certain that the production is limited so that people understand that it is a State asset, it's produced from State land, and both in connection with this and Alaska's natural gas, I think that the people of the south 48 ought to keep in mind that Alaskans are not going to be permitting their resources to be produced at a fantastically low or negative value.

We are going to derive a substantial income from this oil and gas, because we need it to meet the other very pressing problems of our State. We have joined in the quest for new oil and gas in Alaska because of the fact that we believe there is a balance between the proposals to develop our resources and the necessity to protect other resources such as our fisheries. If we consented to the proposals coming out of California that would impose somewhere between \$2 and \$300 million extra cost on this pipeline, Mr. Chairman, we would be, I think, the most foolish people in the country.

I really hope that you have not foreclosed the idea of adding to your amendment a Federal preemption section and, if necessary, a judicial review section, such as was in the Trans-Alaska Pipeline legislation itself. I think the Department of Energy may well have to consider the question as we get into these areas; of whether one State can stand in the way of a project that is in the national interest as far as the distribution of oil and gas is concerned.

I'm an ex-Californian and I remember as a young man how we used to read stories about bandits standing at the pass with guns holding up everybody going west.

Well, it seems to me there are some people in California that have forgotten the lesson because there are a few people that are trying to act like bandits at the pass as far as the transportation of Alaska resources from west to east.

It's imperative that that attitude change, if Alaska's production is to be continued at the rate now anticipated.

I do thank you for permitting me to cosponsor your bill. I want to tell you, as far as I know, I have heard no opposition to your proposal for a Northern Tier line in my State or anyone connected with the oil and gas industry in my State, and I believe you will have the support from those people who are working actively on the Sohio project, too.

We hope that this hearing will be one that will produce a positive result as far as your bill is concerned.

[The statement follows:]

STATEMENT OF HON. TED STEVENS, U.S. SENATOR FROM ALASKA

Mr. Chairman, I am happy that the Committee is looking into this important matter of the transportation and distribution of crude oil nationwide. The issues are not regional problems of concern only to the Midwest, the Northern Tier states, Alaska, or California; they are of national importance. Unfortunately, regional interests have prevailed up to this point in the matter, and it often seems that we are no closer to a resolution than we were last year, when this Committee first held hearings on this question.

Since those hearings a year ago, the facts haven't changed.

Alaskan North Slope oil will soon be produced at the rate of 1.2 million barrels per day. Production would be up to that level now except for the accident at Pump Station 8 in July. The present rate is about 800,000 barrels per day.

The demand for Alaskan oil on the West Coast is limited by a number of factors, including the success of energy conservation efforts in California, the fact that refineries on the West Coast were built to process a different kind of crude oil, and increases in production from both on-shore and off-shore fields in California.

Even with TAPS running at reduced throughput, there is more North Slope crude available than the West Coast can run. There is some oil which must go through the Panama Canal to find a market on the Gulf Coast. The excess will be much greater come next March when Pump Station 8 comes back on line.

These factors, coupled with the need for new supplies of crude oil in the Gulf Coast and Northern Tier regions, give rise to the necessity of new transportation systems to carry crude oil inland from the West Coast, which is rapidly becoming the nation's most important energy supply region.

The Committee will be quite familiar with the different west-to-east pipeline proposals by the time this hearing is concluded. Let me just say that, in my opinion, there is a need for two pipelines—the SOHIO Mid-Continent pipeline and a northern pipeline. The SOHIO pipeline is needed to transport the initial volume of excess oil to the Gulf Coast and mid-continent refineries where great quantities of foreign crude are currently imported. The northern line is needed to meet the needs of Northern Tier refiners whose historical supplies of Ca-

nadian crude are being curtailed. Both lines are needed. Each would economically serve a need that the other could not.

I appreciate the leadership of the Senator from Montana in introducing S. 1868, the National Crude Oil Supply and Transportation Act of 1977. I am a co-sponsor of this bill because I think that it is a significant step toward getting these pipelines built. From the events of the past year, and even longer, it is obvious that some federal action to expedite the approval and completion of these projects is necessary.

There are two points which I hope this Committee will address today.

The first stems from the two distinctly different needs which I mentioned above and the fact that the proposals which would serve those two purposes are in markedly different states of progress. Specifically, the SOHIO project is well along in its permit applications, while the northern proposals are relatively far behind. To make the SOHIO project wait for the northern applications to catch up would severely and unnecessarily delay completion of the one project which is most economical and has the best chance in the short run of dealing with the West Coast surplus over refinery capacity and the mid-continent needs.

I urge that separate consideration be given to the SOHIO project, under this bill. I think that Amendment No. 842 is a good step in this direction.

The other thing that I hope this Committee will address is the need for Federal intervention in the state processes relative to these projects. The Committee should be aware that the State of California has delayed the SOHIO project, month after month, by a variety of tactics, ostensibly for air pollution concerns. The bill, as written, addresses only the Federal permitting procedures. But in this case, the Federal agencies are far ahead of the State. The FPC will make its final decision October 12 on the abandonment of the El Paso gas pipeline which SOHIO plans to use for crude oil. The Department of the Interior will issue a right-of-way permit shortly thereafter. But California stalls, and may continue to stall unless somebody puts a stop to this.

The Coastal Zone Management Act, over which this Committee has jurisdiction, requires that state coastal zone plans which are approved by the Secretary of Commerce must take into account the national interest in energy facility siting. I am happy to note that the California coastal zone agencies have agreed to expedite their handling of SOHIO's application.

For a long-term solution to the nation's energy-environmental conflicts, I think that perhaps such a "national interest" requirement is needed in the Clean Air Act and other environmental legislation. This might eliminate the need for a new Act of Congress every time a project like this needs to be built.

Again, I appreciate the Committee's concern and I hope that we can move swiftly to solve the problem.

This concludes my prepared remarks. Thank you, Mr. Chairman.

[The bills and agency comments follow:]

95TH CONGRESS  
1ST SESSION

# S. 1868

## IN THE SENATE OF THE UNITED STATES

JULY 15 (legislative day, MAY 18), 1977

Mr. MELCHER (for himself, Mr. BURDICK, Mr. HAYAKAWA, Mr. HUMPHREY, Mr. ZORINSKY, Mr. STEVENS, Mr. STEVENSON, Mr. YOUNG, Mr. BAYH, Mr. CHURCH, Mr. WEICKER, Mr. MCGOVERN, Mr. ABOUREZK, Mr. GRAVEL, Mr. METCALF, and Mr. LUGAR) introduced the following bill; which was read twice and referred to the Committees on Commerce, Science, and Transportation and Energy and Natural Resources jointly by unanimous consent

## A BILL

To expedite issuance of Federal permits and developments of a transportation system to move Alaskan crude oil to Northern Tier and other inland States, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

### SHORT TITLE

This Act may be cited as the "National Crude Oil Supply and Transportation Act of 1977".

### CONGRESSIONAL FINDINGS

SEC. 2. The Congress finds and declares that—

(1) serious crude oil supply shortages exist in the Northern Tier and inland States;

II

1           (2) curtailment of Canadian crude oil and natural  
2       gas exports, depletion of known oil and gas reserves, hy-  
3       droelectric power shortages, and conversion from natural  
4       gas to petroleum products will exacerbate the existing  
5       supply shortage;

6           (3) the scheduled July 1977 operation of the trans-  
7       Alaska pipeline is projected to result in a large surplus  
8       of North Slope crude oil on the west coast;

9           (4) pending the authorization and completion of  
10      west coast to Midwest crude oil transportation systems,  
11      Alaskan crude oil in excess of west coast needs will be  
12      shut in or transshipped through the Panama Canal at  
13      a high transportation cost;

14          (5) a long-term solution to this supply imbalance  
15      is needed and expeditious authorization of crude oil trans-  
16      portation systems for delivery of Alaskan crude oil to  
17      markets in Northern Tier and other inland States is of  
18      the utmost priority; and

19          (6) resolution of the west coast crude oil surplus  
20      and the need for crude oil in Northern Tier and inland  
21      States requires the assignment of responsibility within  
22      the executive branch; expedited action on environmental  
23      assessments and permit applications and reasonable  
24      limitations on judicial review.

## STATEMENT OF PURPOSE

1  
2       SEC. 3. (a) The purpose of this Act is to resolve the  
3 west coast crude oil surplus by providing an expedited means  
4 for issuing required Federal approvals for the continuation  
5 of a transportation system or systems to move Alaskan  
6 crude oil to Northern Tier or inland States.

7       (b) To accomplish this purpose it is the intent of the  
8 Congress to exercise its constitutional powers to the fullest  
9 extent in the authorization and directions herein made.

## DEFINITIONS

10  
11       SEC. 4. As used in this Act:

12       (a) The term "Secretary" means the Secretary of  
13 the Department of the Interior.

14       (b) The term "Northern Tier States" means Wash-  
15 ington, Oregon, Idaho, Montana, North Dakota, Min-  
16 nesota, Michigan, Wisconsin, Illinois, Indiana, and Ohio,  
17 as set out in section 18 of the Alaskan Natural Gas Act  
18 of 1976.

19       (c) The term "inland States" means any other  
20 State experiencing or projected to experience crude oil  
21 shortages that could be served by a west coast to Mid-  
22 west crude oil transportation system or systems.

23       (d) The term "crude oil transportation system"  
24 means a crude oil pipeline within and subject to the

14 jurisdiction of the United States and the port, terminal,  
15 tank farm, pumping stations, offtake points, and other  
16 related facilities associated with moving substantial vol-  
17 umes of Alaskan crude oil by pipeline to Northern Tier  
18 and other inland States.

19 EXPEDITED DECISIONMAKING ON CRUDE OIL TRANSPORTA-  
20 TION SYSTEMS

21 SEC. 5. (a) (1) The Secretary shall review all applica-  
22 tions pending on the date of enactment of this Act for the  
23 issuance of Federal rights-of-way, permits, leases, and other  
24 authorizations necessary for construction and operation of a  
25 crude oil transportation system from the west coast to North-  
14 ern Tier and other inland States. The Secretary shall estab-  
15 lish a time schedule for collection of all required environ-  
16 mental impact statements associated with the crude oil trans-  
17 portation system covered by each application. The schedule  
18 shall insure that the appropriate Federal agencies have com-  
19 pleted the environmental impact statement prior to the Secre-  
20 tary's decisions pursuant to subsection (b) of this section  
21 on issuance of authorizations necessary for construction and  
22 operation.

23 (2) The Secretary may, by rule, provide for the pres-  
24 entation of data, views, and arguments pursuant to such

1 procedures as the Secretary determines to be appropriate to  
2 carry out his responsibilities under this section, but he is  
3 not required to again have repeated procedures that have  
4 already been undertaken pursuant to permits of applicants.  
5 Such a rule shall, to the extent determined by the Secretary,  
6 apply, notwithstanding any provision of law that would  
7 otherwise have applied to the presentation of data, views,  
8 and arguments.

9 (3) The Secretary may request such information and  
10 assistance from any Federal agency as he determines to be  
11 necessary or appropriate to carry out his responsibilities  
12 under this Act. Any Federal agency requested to submit  
13 information or provide assistance shall submit such informa-  
14 tion at the earliest practicable time after receipt of a request  
15 from the Secretary.

16 (b) (1) Following the Secretary's review of applica-  
17 tions and establishment of schedules for completion of re-  
18 quired environmental impact statements, the Secretary,  
19 after consultation with the Administrator of the Federal  
20 Energy Administration or the head of its successor agency,  
21 shall make a decision no later than February 1, 1978, as to  
22 which such transportation system or systems shall be ap-  
23 proved under this Act.

24 (2) The criteria for the Secretary's decision on a trans-



1 portation system or systems to move Alaskan crude oil to  
2 areas experiencing shortages in Northern Tier and inland  
3 States shall be:

4 (A) the volumes of crude oil that would be made  
5 available to Northern Tier and other inland States and  
6 the projected demand in these States;

7 (B) the extent to which the system or systems pro-  
8 vide a long-term solution to the west coast crude oil  
9 surplus; and

10 (C) the extent to which the system or systems  
11 enable the provisions of section 410 of Public Law  
12 93-153 to be carried out to insure an equitable alloca-  
13 tion of the benefits of North Slope crude oil to all  
14 regions of the country.

15 SEC. 6. The Congress hereby authorizes and directs  
16 the Secretary of the Interior and other Federal officers  
17 and agencies to issue and take all necessary actions to  
18 administer and enforce rights-of-way across Federal lands,  
19 Federal permits, Federal leases, and other Federal authori-  
20 zations that are necessary for or related to the construction,  
21 operation, and maintenance of each crude oil transportation  
22 system approved by the Secretary pursuant to this Act.

23 SEC. 7. (a) Notwithstanding any other provision of  
24 law, the actions of Federal officers or agencies taken pur-

1 suant to section 6 of this Act, shall not be subject to judicial  
2 review except as provided in this section.

3 (b) Claims alleging that an action will deny rights  
4 under the Constitution of the United States, or that an  
5 action is in excess of statutory jurisdiction, authority, or  
6 limitations, or short of statutory right may be brought not  
7 later than the sixtieth day following the date of such action,  
8 except that if a party shows that he did not know of the  
9 action complained of, and a reasonable person acting in the  
10 circumstances would not have known, he may bring a claim  
11 alleging the invalidity of such action on the grounds stated  
12 above not later than the sixtieth day following the date of  
13 his acquiring actual or constructive knowledge of such action.

14 (c) (1) A claim under subsection (b) shall be barred  
15 unless a complaint is filed prior to the expiration of such  
16 time limits in the United States Court of Appeals for the  
17 District of Columbia acting as a special court. Such court  
18 shall have exclusive jurisdiction to determine such proceeding  
19 in accordance with the procedures hereinafter provided, and  
20 no other court of the United States, of any State, territory,  
21 or possession of the United States, or of the District of  
22 Columbia, shall have jurisdiction of any such claim in any  
23 proceeding instituted prior to or on or after the date of  
24 enactment of this Act.

1       (2) Any such proceeding shall be assigned for hearing  
2 and completed at the earliest possible date, shall, to the  
3 greatest extent practicable, take precedence over all other  
4 matters pending on the docket of the court at that time,  
5 and shall be expedited in every way by such court and such  
6 court shall render its decision relative to any claim within  
7 ninety days from the date such claim is brought unless such  
8 court determines that a longer period of time is required to  
9 satisfy requirements of the United States Constitution.

10                               **ANTITRUST LAWS**

11       SEC. 8. Nothing in this Act, and no action taken here-  
12 under shall imply or effect an amendment to, or exemption  
13 from, any provision of the antitrust laws.

14                               **SEPARABILITY**

15       SEC. 9. If any provision of this Act, or the application  
16 thereof, is held invalid, the remainder of this Act shall not  
17 be affected thereby.

IN THE SENATE OF THE UNITED STATES

Referred jointly to the Committees on Commerce and Energy and Natural Resources and ordered to be printed

Intended to be proposed by Mr. MELCHER to S. 1868, a bill to expedite issuance of Federal permits and development of a transportation system to move Alaskan crude oil to Northern Tier and other inland States, and for other purposes, viz: Strike everything after the enacting clause and insert the following:

1

2

## 4

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6

8

**Amdt. No. 842**

1 gas exports, depletion of known oil and gas reserves,  
2 hydroelectric power shortages, and conversion from  
3 natural gas to petroleum products will exacerbate the  
4 existing supply shortage;

5 (c) a large surplus of North Slope crude oil on the  
6 west coast is projected;

7 (d) pending the authorization and completion of  
8 west to east crude oil transportation systems, Alaskan  
9 crude oil in excess of west coast needs will be trans-  
10 shipped through the Panama Canal at a high transporta-  
11 tion cost;

12 (e) a long-term solution to this supply imbalance  
13 is needed. Expeditious authorization of crude oil trans-  
14 portation systems for delivery of Alaskan crude oil to  
15 markets in Northern Tier and other inland States is of  
16 the utmost priority;

17 (f) there are two proposed projects which cross  
18 lands owned by the United States and which allow the  
19 transportation of crude oil from the west coast to the  
20 Northern Tier and inland States: (i) a crude oil trans-  
21 portation system from Port Angeles, in the State of  
22 Washington, to Clearbrook, Minnesota; and (ii) a crude  
23 oil transportation system from Long Beach, California, to  
24 Midland, Texas. These two projects are not, in any sense,  
25 mutually exclusive and both are needed to remedy the

1 problems associated with projected crude oil supply im-  
2 balances;

3 (g) it is in the national security interest that there  
4 be efficient west to east transportation of crude oil;

5 (h) expedited Federal and State permitting deci-  
6 sions are required on both projects referred to in subsec-  
7 tion (f) of this section, in order to establish efficient west  
8 to east crude oil transportation; and,

9 (i) resolution of the west coast crude oil surplus and  
10 the need for crude oil in Northern Tier and inland States  
11 requires the assignment of overall responsibility within  
12 the executive branch, expedited action in obtaining all  
13 necessary approvals on environmental assessments and  
14 permit applications and placement of reasonable limita-  
15 tions on judicial review.

16 STATEMENT OF PURPOSE

17 SEC. 103. (a) The purpose of this Act is to resolve the  
18 west coast crude oil surplus by providing an expedited means  
19 for issuing all Federal approvals required for the construction,  
20 operation, and maintenance of transportation systems to move  
21 Alaskan crude oil to Northern Tier and inland States.

22 (b) To accomplish this purpose it is the intent of the  
23 Congress to exercise its constitutional powers to the fullest  
24 extent in the authorizations and directions herein made.

## DEFINITIONS

SEC. 104. As used in this Act:

(a) The term "Secretary" means the Secretary of the Department of the Interior.

(b) The term "Northern Tier States" means Washington, Oregon, Idaho, Montana, North Dakota, Minnesota, Michigan, Wisconsin, Illinois, Indiana, and Ohio.

(c) The term "Inland States" means those States other than a Northern Tier State and other than California in the continental United States.

(d) The term "crude oil transportation system" means a crude oil pipeline within and subject to the jurisdiction of the United States, and including, but not limited to, the port, terminal, tank farm, pumping stations, off-take points, and other related facilities, associated with moving volumes of Alaskan crude oil by pipeline to Northern Tier or inland States.

(e) The term "Northern Tier project" means that proposed crude oil transportation system referred to in section 102(f)(i) of this Act and generally described in an "Application for Right-of-Way Across Federal Lands" filed by the Northern Tier Pipeline Company with the Department of the Interior, Bureau of Land Management, on April 18, 1977.

1 (f) The term "Long Beach-Midland project" means  
2 that crude oil transportation system referred to in section  
3 102 (f) (ii) of this Act and which was the subject of and  
4 generally described in the "Final Environmental Impact  
5 Statement, Crude Oil Transportation System: Valdez, Alaska  
6 to Midland, Texas (as proposed by Sohio Transportation  
7 Company)", the availability of which was announced by  
8 the Department of the Interior at 42 Federal Register 28008,  
9 June 1, 1977.

10 (g) The term "applicant" means the person or entity  
11 who has applied for some or all of the Federal, State, or  
12 local permits, rights-of-way, or other authorizations neces-  
13 sary for or related to the construction, operation, and mainte-  
14 nance of one of the crude oil transportation systems referred  
15 to in subsections (e) and (f) of this section.

16 **EXPEDITED DECISIONMAKING ON CRUDE OIL**

17 **TRANSPORTATION SYSTEMS**

18 **SEC. 105. (a)** Upon any applicant's written request  
19 that is filed with the Secretary within thirty days of the  
20 date of enactment of this Act, the Secretary shall review  
21 the status of that applicant's rights-of-way, permits, leases,  
22 and other authorizations necessary for construction, operation,  
23 and maintenance of a crude oil transportation system from  
24 the west coast to any of the Northern Tier States or inland



1 States. The Secretary shall establish a schedule for the  
2 expedited completion of any environmental impact state-  
3 ment which may be required, if not already completed.

4 (b) (1) Following the Secretary's review of applica-  
5 tions and the completion of any required environmental im-  
6 pact statement, the Secretary, after consultation with the  
7 Secretary of Energy, shall determine no later than February  
8 1, 1978, with respect to the Northern Tier project, and no  
9 later than October 15, 1977, with respect to the Long  
10 Beach-Midland project, whether the crude oil transporta-  
11 tion system proposed by the applicant shall be approved  
12 under this Act.

13 (2) The Secretary shall make his decision for each proj-  
14 ect subject to this Act upon its own individual merits. The  
15 Long Beach-Midland project and the Northern Tier project  
16 are not and shall not be considered as mutually exclusive  
17 crude oil transportation systems.

18 SEC. 106. The Congress hereby authorizes and directs  
19 the Secretary of the Interior and other Federal officers and  
20 agencies to issue, no later than thirty days from the date  
21 of the Secretary's decision to approve, and take all necessary  
22 actions to administer and enforce rights-of-way across Fed-  
23 eral lands, Federal permits, Federal leases, and other Federal  
24 authorizations that are necessary for or related to the con-  
25 struction, operation, and maintenance of each crude oil trans-

1 portation system approved by the Secretary pursuant to this  
2 Act.

3       SEC. 107. The approval of the Secretary under section  
4 105 and the actions of the Federal officers under section 106  
5 concerning the issuance of the necessary rights-of-way,  
6 permits, leases, and other authorizations for the construc-  
7 tion, operation, and maintenance of any crude oil transpor-  
8 tation system approved by the Secretary shall not be sub-  
9 ject to judicial review under any law except that claims  
10 alleging the invalidity of this Act may be brought within  
11 sixty days following its enactment, and claims alleging that  
12 an action will deny rights under the Constitution of the  
13 United States, or that the action is beyond the scope of  
14 authority conferred by this Act, may be brought within  
15 sixty days following the date of such action. A claim shall  
16 be barred unless a complaint is filed within the time specified.  
17 Any such complaint shall be filed in a United States district  
18 court, and such court shall have exclusive jurisdiction to  
19 determine such proceeding in accordance with the proce-  
20 dures hereinafter provided, and no other court of the United  
21 States, of any State, territory, or possession of the United  
22 States, or the District of Columbia, shall have jurisdiction  
23 of any such claim whether in a proceeding instituted prior  
24 to or on or after the date of the enactment of this Act. Any  
25 such proceedings shall be assigned for hearing at the earliest

1 possible date, shall take precedence over all other matters  
2 pending on the docket of the district court at that time, and  
3 shall be expedited in every way by such court. Such court  
4 shall not have jurisdiction to grant any injunctive relief  
5 against the issuance of any right-of-way, permit, lease, or  
6 other authorization pursuant to this section except in conjunc-  
7 tion with a final judgment entered in a case involving a  
8 claim filed pursuant to this section. Any review of an inter-  
9 locutory or final judgment, decree, or order of such district  
10 court may be had only upon direct appeal to the Supreme  
11 Court of the United States.

12 **ANTITRUST LAWS**

13 **SEC. 108.** Nothing in this Act, and no action taken  
14 hereunder shall imply or effect an amendment to, or  
15 exemption from, any provision of the antitrust laws.

16 **SEPARABILITY**

17 **SEC. 109.** If any provision of this Act, or the application  
18 thereof, is held invalid, the remainder of this Act shall not  
19 be affected thereby.

U.S. DEPARTMENT OF THE INTERIOR,  
OFFICE OF THE SECRETARY,  
*Washington, D.C., September 14, 1977.*

HON. WARREN G. MAGNUSON,  
*Chairman, Committee on Commerce, Science, and Transportation, U.S. Senate,  
Washington, D.C.*

DEAR MR. CHAIRMAN: This responds to your request for the views of this Department with respect to a bill, S. 1868, "To expedite issuance of Federal permits and developments of a transportation system to move Alaskan crude oil to Northern Tier and other inland States, and for other purposes."

Although we support the concept of expediting development of necessary transportation systems to deliver Alaskan crude oil to inland States, we do not support S. 1868 as presently written.

S. 1868 would be cited as the "National Crude Oil Supply and Transportation Act of 1977." It would provide an expedited means for issuing required Federal approvals for development of a transportation system to move Alaskan crude oil to Northern Tier or inland States and would require the Secretary of the Interior to decide by February 1, 1978, which system(s) should be approved.

Section 5 directs the Secretary to review applications pending on the date of enactment for issuance of rights-of-way or other authorizations needed for construction and operation of a crude oil transportation system from the west coast to Northern Tier and other inland States. The Secretary would also be required to establish a time schedule for the environmental statements "associated with" the system covered by each pipeline to insure that Federal agencies had completed such statements prior to the Secretary's decisions on issuance of the required authorizations. Provisions are included authorizing the Secretary to provide by rule for public participation and to request and receive from other Federal agencies at the earliest practicable date whatever information he needs to carry out his responsibilities under this bill. Following review of applications, establishment of environmental statement completion schedules and consultation with the head of the Department of Energy, the Secretary would be required to decide by February 1, 1978, which system or systems shall be approved. Certain criteria for his decision are specified in the bill and would relate solely to crude oil distribution.

Section 6 directs the Secretary and other Federal agencies to issue and take all necessary action to administer and enforce Federal authorizations needed for or related to construction, operation and maintenance of the system approved by the Secretary. Judicial review of actions taken pursuant to these directives would be limited as provided in Section 7 of the bill, which specifies the types of claims that could be brought, places time limitations on initiation of such actions and would place exclusive jurisdiction in the U.S. Court of Appeals for the District of Columbia acting as a special court.

The bill as drafted presents several serious problems.

1. *The deadline date of February 1, 1978.*—The deadline for a decision by the Secretary of the Interior to select a route, and for completion of all environmental impact statements, is entirely unrealistic. Even with great increases in manpower and funds, it is extremely doubtful the deadline could be met.

Completion of the final environmental statement for the proposed "Northern Tier Pipeline" is currently scheduled for April 1979. Considering that the Northern Tier Pipeline Company filed an application that lacks a complete project description as well as an environmental assessment of the project, we could give no assurance that the statement could be completed in time to meet the February 1 deadline, regardless of manpower and funds committed to the statement's preparation. In addition, it should be noted that due to the time required for enactment of legislation, the Secretary would not have available to him the additional authorities needed, such as scheduling of statements, until at best four months prior to the selection date. This is not sufficient time.

Moreover, only one application for a system clearly meeting the requirements of the Act has been submitted. [The Northern Tier proposal; see discussion of Sohio proposal below.] There could be more before enactment of S. 1868.

The proposed timetables could substantially impair the Department's ability to protect Federal lands (National Parks, National Wildlife Refuges, Bureau of Land Management lands) from destructive environmental impacts, particularly since Section 5(b) mandates the Secretary to approve one or more proposed crude oil transportation systems, and Section 6 would then require the Secretary

and other Federal authorities to issue all authorizations necessary for its construction and operation. Time is needed for adequate assessment and for changes and possible consideration of alternatives that may be necessary. Depending upon the resources involved, a given proposal or right-of-way permit could involve environmental impacts ranging from insignificant to highly destructive.

Finally, we believe that imposition of such a tight deadline could seriously undermine the Federal-State relationships involved. This in turn may lead to unnecessary delay since the Secretary would have no authority to compel the States to meet deadlines or to take actions with respect to their permitting and environmental statement procedures. Washington, Montana and Minnesota all have requirements for environmental statements. Washington has indicated that it does not wish to join in a Federal environmental statement and we have no information as to when the State's process will be completed. We are hopeful that the other States will join with us. However, neither has made a commitment to do so. It seems that excessive pressures to expedite this matter at the Federal level could result in a product which does not adequately address the States' concerns, thereby forcing them to carry out their own processes independently.

**2. Limitations on alternatives.**—The definition of the term "crude oil transportation system" in section 4(d) is "a crude oil pipeline within and subject to the jurisdiction of the United States" and facilities associated with moving substantial volumes of Alaskan crude oil by pipeline to Northern Tier and other inland States. The effect of this definition is to limit the Secretary's alternatives to systems wholly located in the United States.

At least two pipeline proposals would not be covered by applications before the Secretary of Interior:

(a) The Kitimat Pipeline, running from Kitimat, B.C., across the Canadian Rockies to existing pipeline systems, in Alberta, Canada, which in turn feed into Canadian and U.S. refinery markets; and

(b) Reversal of the largely Canadian, Trans Mountain system to carry runs from ARCO's Cherry Point Refinery into the Inter Provincial Canadian system with off takes to U.S. lines and terminals.

At best, the choice posed by S. 1868 would appear to be between the Sohio proposal for a southern route from the Los Angeles or Long Beach area to Midland, Texas, on the one hand, and the Port Angeles, Washington to Clearbrook, Minnesota, route of the Northern Tier group. The Sohio proposal is more advanced than the Northern Tier plan in terms of Federal processing. However, both proposals currently are enmeshed in state permit problems relating to the location of their west coast port and terminal facilities.

Whether the Sohio proposal could immediately serve the Midwest from the west coast is questionable in that apparently there is not any existing or additional throughput capacity from Midland, Texas, to Cushing, Oklahoma, which, if it were available, would allow the west coast crude to flow directly into the existing Midwest crude pipeline system. Thus, in all likelihood, the bill would confine the Secretary's decisionmaking to only the Northern Tier proposal, unless other proposals were made between now and a deadline that might be imposed by enactment of S. 1868.

The Sohio proposal also presents additional potential for delay if it is considered with respect to the February 1 decision deadline of S. 1868. The Sohio proposal which involves the abandonment of an interstate, El Paso Natural Gas pipeline, as well as new Federal and State permitting authority, requires FPC approval of the abandonment of the gas line. An FPC decision on this feature will not occur until October or November of this year, at the very earliest, and it is rumored that opposition may be encountered through a consortium that is stock piling Mexican gas which would be made available to run through the gas line from Texas to the west coast.

We recognize that the Congress may be exercising its "constitutional powers to the fullest extent" by making a decision to limit consideration of proposals to those totally within the United States. However, we believe it would be more in the public interest for the Secretary to have discretion to examine all promising alternatives for serving Northern Tier and inland States and that the Canadian proposals should be given consideration.

S. 1868 would also limit the Secretary to those proposals for which an application was on file on the effective date of the bill. This may not be in the public interest and could undermine the practice of developing and examining alternatives in the statement.

3. *Interagency coordination.*—Section 6 requires all agencies to issue and administer all Federal authorizations (not just land use authorizations) needed for the construction, operation, and maintenance of the system approved by the Secretary. It appears that this could limit the discretion or judgment of all agencies with respect to those authorizations once the Secretary reaches a decision. While we believe that a lead agency should be given authority to coordinate, set standards, and establish schedules if the selection is to be expedited, we believe that the extraordinary powers granted the Secretary by S. 1868 may cause unnecessary friction and consequent delay. We would be happy to discuss further with the Committee authority which would accomplish the objectives of the bill without these adverse effects.

4. *Criteria for approval.*—Section 5(b) (2) lists criteria the Secretary's decision would be based on. They are all related to allocation and distribution of crude oil. The way the bill is presently drafted it appears that this decision would have to be based solely on these considerations. We do not believe this approach is in the public interest. Environmental and land use considerations as well as cost and time for completion of a system are neglected. These factors, at a minimum, should also be included in any decision process.

5. *Judicial review and compliance with NEPA.*—It is not clear whether the judicial review limitations of section 7 would apply to suits under NEPA. It would appear that compliance with NEPA and a February 1 deadline would be incompatible. NEPA should be explicitly addressed if expediting legislation of any sort is to be passed.

We comprehend and appreciate the concerns leading to introduction of S. 1868. These same concerns led to enactment of the Alaska Natural Gas Transportation Act of 1976. If the Congress now wishes to make selection of a system to serve the Northern Tier and inland States a national priority we would have no objection in principle. However, we strongly believe that considerable additional work and modification of S. 1868 is necessary to produce a suitable bill. Among other matters, the time frames must be modified to be workable and the bias against the two known Canadian proposals must be eliminated.

If the Committee desires, we would be happy to work with the staff in developing suitable modifications or substitute provisions.

The Office of Management and Budget has advised that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

GUY R. MARTIN, *Assistant Secretary.*

Senator MELCHER. Thank you. Another cosponsor of the bill, Senator Bayh is with us today. We are delighted to welcome you, Senator Bayh. We will be glad to hear your testimony.

Senator STEVENS. Can you also put in the record a statement by the Western Governors Policy Office, supported by the States listed? It is in support of the transportation of this crude oil.

Senator MELCHER. Without objection, it will be made a part of the record.

[The statement follows:]

#### RESOLUTION No. 77-51

ANCHORAGE, ALASKA, *September 2, 1977.*

Subject: Transportation of Alaska Crude Oil.

Whereas Canada has curtailed the export of crude oil for use in refineries in the United States; and

Whereas the denial of this source of crude oil is having an adverse effect on the northern tier and midwestern states; and

Whereas it is projected that there will be a surplus of Alaska crude oil on the West Coast requiring expensive transshipment through the Panama Canal and thereby reducing tax and royalty payments to the State of Alaska; and

Whereas resolving the nation's energy problems will require regional cooperation between the Western States and the Federal Government; and

Whereas this Nation and Western States must do everything possible to be assured of adequate, secure and embargo proof sources of energy, including but not limited to crude oil, natural gas, coal, and electricity; and

Whereas at the present time there is no transportation system in place or authorized for construction to move crude oil domestically produced in Alaska into the northern tier and midwest states; and the scheduled July 1977 operation of the trans-Alaska pipeline is projected to result in a large surplus of North Slope crude oil on the west coast; and

Whereas it is possible to construct an All-American crude oil pipeline with American labor, steel and equipment which will serve those consumers of the northern tier and midwest states which are adversely affected by the denial of Canadian crude oil; Now, therefore, be it

*Resolved*, That the Governors of the Western States Governors' Conference convened in Anchorage, Alaska, recognize the necessity of dealing with the West Coast crude oil surplus and providing crude oil to those states which are adversely affected by the denial of Canadian crude oil.

Section 2. That the Governors of the Western Governors' Conference recognize the necessity of providing a means for transporting to the interior states crude oil domestically produced in Alaska.

Section 3. That the Government of the United States cooperate with the states involved in expediting the authorization and completion of an All-American crude oil pipeline which will serve the Nation, the northern tier and the midwest states.

Section 4. The Western Governors also support the development of a southwestern oil pipeline route.

Section 5. Copies of this Resolution shall be widely distributed throughout the Executive and Legislative branches of the United States Government and the State Governments of the Western States Governors' Conference.

#### **STATEMENT OF HON. BIRCH BAYH, U.S. SENATOR FROM INDIANA**

Senator BAYH. Mr. Chairman, colleagues, I appreciate very much the opportunity to be here this morning to participate in these hearings on S. 1868, the National Crude Oil Supply and Transportation Act of 1977.

If you have no objection, I have asked Eve Lubalin, who has done much of my staff work on this bill to be with us.

Senator MELCHER. No objection.

Senator BAYH. Although the Senators from Indiana and Alaska have had different perspectives relative to the valuable resources that Alaska has underground, it is not to be overlooked that there is still a common purpose to be accomplished by resolving our differences, and determining how we can best deliver Alaskan oil to the lower 48, to the rest of the country that desperately needs it.

Mr. Chairman, I frankly do not enjoy reading statements, but because I know you have a full day of hearings, I think perhaps I should resist the temptation to take 15 minutes to summarize a statement that perhaps can be delivered in 7.

We will all be best served if I just expound from my statement, if you have no objection.

Senator MELCHER. No objection at all.

Senator BAYH. It seems to me that these hearings could not be more timely. There is no doubt that all of us in the Senate and Congress will spend all of our time before adjournment debating and acting on a series of the President's energy bills. Many of these are controversial, as we found out yesterday, and the day before, and as we will find out in the future.

One of the areas which will doubtless be controversial is the question of how best to increase the Nation's supply of natural gas and crude oil.

Few of us from areas heavily dependent on natural gas can easily forget the severe hardships and economic disruptions caused this past winter by natural gas shortages.

Unfortunately, there is no bill we can pass, no magic panacea to bring back the days of cheap and plentiful energy. The President has addressed decreasing oil and gas supplies by stressing conservation, and a switch from heavy reliance on natural gas and oil to coal, which we have in abundance, of course, and also, clean, renewable energy resources now in the research and development stage.

This is an admirable effort and well worth our support.

However, in my judgment, even with the best research and development and the smoothest possible conversion from oil and gas to other energy resources, we are going to be heavily dependent on oil and gas for the rest of this century.

Given this certainty, it seems to me only prudent that we assure ourselves the most stable supply possible, and the best means to adequately utilize all of the petroleum resources we now have in this country.

Recently, the Senate passed the Outer Continental Shelf bill which will permit us to utilize the resources that lie offshore. Our other major source of new domestic oil and gas is the reserves we have in Alaska, which are just beginning to be developed.

Just last week President Carter recommended the construction of a trans-Canadian natural gas pipeline to carry our large Alaskan natural gas reserves to the lower 48, as quickly, economically, and efficiently as possible.

Frankly, I was pleased with the President's decision and I intend to do all I can to assure the success of that project. I must say it seems to me rather ironic on the eve of beginning a new project to transport Alaskan gas south, and after the much-heralded opening of the Alaskan oil pipeline, we are still faced with the problem of how to transport Alaskan oil to those parts of the country that really have the greatest need for it.

Back in 1973, I, along with others, opposed the Alaskan pipeline, not because we didn't feel the oil should be developed, not because we felt it should be left in the ground, but because we were concerned about certain problems that particular route would pose. One, of course, was the possibility of a surplus of oil on the west coast. Now I share the concern of the Senator from Alaska about actions taken by some States, that will make it more difficult for us to utilize that oil.

It seems to me we need to reconcile that and eliminate any bottlenecks that might be caused in Washington. We have to find a way to resolve existing problems and move that oil, because the prediction of a glut has now come true. By this winter, we will be experiencing a surplus of almost a half million barrels per day on the west coast.

Frankly, I find no comfort in "I told you so's."

We have a problem, the question is how we solve it. I think we should get about it. The proven reserves in Alaska's North Slope have been estimated at 10 billion barrels. In all likelihood, based on conversations with colleagues and people in Alaska, it could run as high as 30 billion barrels.

I hope it does.

At a rate of a million barrels a day, my rather elementary arithmetic points out that that could mean a stable addition to our oil supplies



for at least 90 years, which is a long period of time, and we are fortunate to have that supply.

We must act immediately to get this oil to the sections of the country in desperate need of it and reduce our dependence on unstable foreign oil.

The situation, I feel, is going to get worse, not better. We know the Canadians are continuing their gradual reduction of exports to the United States. The loss of this crude could well result in idling greater than half of the capacity of the northern tier refineries. The situation could be aggravated further if natural gas shortages increase the demand for fuel oil, stepping up further dependence on oil.

Unfortunately, no transportation system currently exists to easily move Alaskan oil to energy-deficient areas of the Nation. However, several initiatives are underway in the private sector to add to existing pipelines or build new ones and make efficient transportation of Alaskan oil to Midwest and northern tier refineries possible.

The only alternative to building these pipelines is to ship Alaskan oil through the Panama Canal, a cumbersome, wasteful, and expensive process. Conservatively, this mode of transportation could add more than \$2 to \$3 a barrel to the cost of shipping Alaska oil east.

This is not a rational long-term solution to our problem. Our distinguished Senator from Alaska has suggested the possibility of a sea-level canal in Panama which in the long-distant future might hold some hope, but knowing the problems of resolving anything in Panama, and how long that takes, that wouldn't be much comfort in 2 or 3 years from now, when we could otherwise be delivering that oil through the pipelines which the legislation of our colleague from Montana is meant to facilitate.

It seems to me, rather, that the most reasonable course to take is to do all we can to expedite the construction of pipelines to transport the oil where it is needed, safely, cheaply, reliably, and with minimal environmental damage.

In February of this year, I was pleased to join my distinguished colleague Senator Melcher, and 14 others, in urging the Federal Energy Administration to recommend a means of expediting the construction of these new pipelines as required by section 18 of the Alaskan Natural Gas Act.

Unfortunately, the report issued by the FEA in response to this requirement did not recommend strong Executive action. This was true despite the fact that the FEA agreed that the pipeline proposals were technically feasible and could be made operational within the next few years.

In light of this earlier response, I think we can take some comfort in the fact that the administration decided not to export Alaskan oil to Japan, as a means of getting rid of the surplus, and has recently encouraged proposals by the private sector consortiums to develop pipelines to carry surplus Alaskan oil from the west coast to Northern Tier and Midwestern States. I am anxious to let these companies get on with the job.

I confess a strong provincial reason for being here. We are in the enviable position in Indiana of benefiting from any of the pipeline proposals that are before us. Having confessed a regional reason for

being here, I must also say that I think a good case can be made that there is a strong compelling national interest in building these pipelines because we are not talking about pipelines to benefit one State. We are talking about a way to distribute a valuable resource and to shore up the economic potential of a major part of the United States—industry, homes and schools, and the like.

Too many years have slipped by while bureaucrats have shuffled papers. It is time to free ourselves of further redtape and delay and to start construction of a viable transportation system to deliver this new source of oil to refineries that want it and customers that need it.

In order to facilitate the process Senator Melcher has introduced S. 1868 to make these projects go to the top of the agenda within the Interior Department and other agencies with jurisdiction over this matter.

I imagine now that the administration has ruled out Japanese exports as a means of disposing of the anticipated west coast oil surplus and commented favorably on pipelines to carry the surplus oil east, that the Interior Department will do its best to facilitate the Federal review and permit process.

However, we must make sure that the Department has all of the authority it needs to speed the construction of these pipelines, and that we can iron out any of the bottlenecks which might be evident.

This is, of course, the purpose of S. 1868, which gives the Department more authority and puts a time limit on judicial review without abridging any rights.

Mr. Chairman, let me say, in closing, that, despite this lovely fall weather we have been having, and the very hot summer we have had, I think it is important to remind ourselves we are really only a very few months away from the winter season.

It could well be, before too long, that large parts of the country will be experiencing shortages of natural gas.

We saw last winter the enormous economic and human costs of such shortages—plant shutdowns, unemployed workers, school and hospital closings.

Right now, many people are commenting on the supposed oil glut. However, the day is not far off when we will not have enough oil in this country for our most basic needs.

We must not fool ourselves about this. We must start now, as rapidly and expeditiously as we can, to remedy the need, part of which solution will be to solve the problem of inadequate distribution systems. Until we can convert to other sources, Alaskan oil will be absolutely necessary to prevent massive shutdowns at locations across the country.

We must get a transportation system in place as fast as humanly possible to get this oil to the energy-starved States and portions of this country.

I think this legislation will help bring that about.

I am glad to associate myself with it and with you, Mr. Chairman, and I hope the Congress will move quickly to approve S. 1868. I look forward to working with the President, Department of the Interior and other Federal agencies as well as those active in the private sector, to make these needed transportation systems a reality at the earliest possible date.

Anything I can do as one Senator to cooperate with this committee and you, Mr. Chairman, to expedite the passage of this bill as quickly as possible, you can count on me for.

I appreciate being with you this morning, sir.

Senator MELCHER. Senator, I very much appreciate the very fine recount of the proposition that faces us. I think the fact that you, Senator, who have dealt with energy matters for a number of years in the forefront of the Senate, giving us this concise and positive approach in support of the bill is most noteworthy.

I am particularly pleased that, after considering the merits of S. 1868, that you became a cosponsor of the bill.

I think it signifies to the public that indeed this bill is not only needed, but it is genuinely in the public interest.

I very much appreciate that, Senator, and appreciate your appearance here this morning.

Senator STEVENS. You don't mind if we change the record and make that the junior Senator that wants the sea-level canal. I am not arguing who is junior and senior.

Senator BAYH. No. I don't.

Senator STEVENS. But I don't support that canal.

Senator BAYH. Let the record so state. I have only recently become a senior Senator, and I find my normal body functions haven't changed a bit. I still only have one vote.

Senator STEVENS. They don't treat you differently. They just recognize your age.

Senator BAYH. I have heard about it for years, but I am not surprised to see it doesn't change. I apologize for confusing my two colleagues.

Senator STEVENS. Let me say I am pleased about the part of your statement which says this is no time to argue over "I told you so's" regarding our Canadian neighbors. We didn't think back in 1973 that they were going to cut off the oil to the Northern Tier nor did we suspect that Indonesia would be willing to export so much of its production to the west coast. Nor did we think that the large quantity of sweet crude would lead to the situation where we do not have enough refinery capacity on the west coast to handle all the oil.

I confess that had we had a crystal ball, perhaps we would not have had the Alaska pipeline although I perceived you were arguing different arguments about surplus then. Your projections for surplus were right and our projections for demand were incorrect.

As far as refinery capacity is concerned, I am glad to see we are willing to join together in supporting the Senator from Montana's bill. I am even more heartened by your statement that you agree about the national aspects of this transportation system.

I hope that we can join together on that, too.

I think there is a time factor here, and the time factor is directly related to the potential threat of another embargo. It would be sad, indeed, if the relationships in the Middle East changed again drastically and we find ourselves faced with another embargo. This time we think it would be a very severe embargo, and we do not have one or both of these transportation mechanisms in place. Because our oil would be the only oil that could sustain a substantial portion of the Nation at that time, the absence of that west to east transportation

mechanism in place would be a national disaster. I hope that all of our colleagues are keeping that in mind. I am delighted to have your help, to assist our friend from Montana in his quest for the Northern Tier line.

I am also pleased that you support the Sohio line also. That is correct, isn't it?

Senator BAYH. Either of those two projects or both?

I might say, to my friend from Alaska, that one of the things I have become to relish about the U.S. Senate, is that people have good will and good intentions, that those who have different backgrounds and represent different constituencies can look at the same set of circumstances and reach different conclusions.

The reason for the U.S. Senate is to give two of us a chance to stand up and support our own States.

I have never in my life, although we have disagreed on certain routes, had any acrimony in my heart toward my colleague. I feel it does us no good now to say, we couldn't have seen or we did see. But the fact of the matter is we differed on what should be done back then.

One of my reasons for differing was that we were talking about a treasure, a precious natural resource.

One of the concerns I had at the time the Alaskan oil pipeline developed was that we didn't sit down and say, what is the best long-range solution?

Now, we are doing that. I was not one that thought we ought to keep the oil in the ground. There were some that did. I am concerned about the environment, but I thought those problems could be resolved.

Now, let's get about it.

Senator STEVENS. My only comment to my friend from Indiana's fellow Hoosier originally, at the time you predicted surplus on the west coast if we didn't go through Canada was that I predicted the pipeline wouldn't be built for 10 years.

The President has decided to put the gas pipeline through Canada. I hope that my crystal ball with regard to time is not as accurate as yours was about surplus. Because I perceive that it will be a long time before that gas pipeline is built through Canada. I still have the feeling that this oil pipeline would not be completed even now, had we decided to go through Canada.

But it is one of those things, you are correct. We need to have more national planning in terms of the distribution of Alaska's resources. I think it is unfortunate we have to rely on another government to achieve it, a government that demonstrated its attitude toward this country, with regard to the curtailments of gas and oil; especially the curtailments of gas as far as the exports are concerned. I think that is unfortunate.

But I do confess your predictions of a surplus were accurate.

Senator BAYH. I think hindsight is always better. I think perhaps we are better equipped now to deal with some of the "Canadian problems," than we were when you and I were discussing it on the Senate floor. As you recall during the Senate debate on the Alaska oil line, my concern was that we ought to at least take a year to consider the Alaska route, and the Senator from Alaska, of course, was very right in pointing out the problems that existed there. That is past history.

Let's hope we can resolve those problems in the future.

Senator MELCHER. Senator from Nebraska?

Senator ZORINSKY. I had a brief remark. I would like to say, we talk about a lot of natural resources being available in the State of Alaska, we talk about our current energy shortage within this country, all the energy available to this country means absolutely nothing if we can't get it to where it belongs and where it is needed. This bill goes right to the heart of the distribution system of getting it to the people in the country that need the energy.

So, I compliment Senator Melcher in getting about the problem of distributing the energy, which is available from the State of Alaska.

Senator MELCHER. Thank you. Thank you very much, Senator.

Mr. John F. O'Leary, Administrator, Federal Energy Administration.

I see Congressman Phil Ruppe is here.

Phil, if you can wait just a moment, I think Mr. O'Leary has to testify before another committee very shortly.

Mr. O'LEARY. Mr. Chairman, I'm sorry. I'm going to ask your leave to go before the Appropriations Committee in the House. I have a standing appointment with them at 10 o'clock. So let me very briefly summarize really the heart of the testimony that I—the point I want to make to you this morning.

Senator MELCHER. That will be fine.

**STATEMENT OF JOHN F. O'LEARY, ADMINISTRATOR, FEDERAL ENERGY ADMINISTRATION; ACCOMPANIED BY DOUGLAS G. ROBINSON, ALASKAN OIL PROJECT COORDINATOR**

Mr. O'LEARY. Mr. Robinson will stay here and be able to flesh out my testimony and answer any questions that you or members may have.

Mr. Chairman, I think it is with a great deal of pleasure that I can say we support in principle the concept of the legislation that is the subject of your hearing today. We have been wrestling with this problem now for some 7 months of my tenure and a good deal more of yours and others concerned with this problem.

I think we are getting to the point now where it is quite evident that there is a very strong national interest motivation for going ahead and setting the framework for getting the necessary decisions made, in order to move forward with the necessary projects to effect the logistics of transporting Alaskan oil to the mid-continent and upper Northern Tier.

There is a point that I should make in that context—I believe we are not properly positioned to preempt State judgments on this. We have to reflect upon the duty and right of the State to make their own decisions in this arena and I think that any legislation that comes out should bear that very much in mind.

I think it is fair, however, to provide a coordinating mechanism where the activities of State and Federal Governments are measured and we can come to a resolution of this problem.

So, we will have some amendments to offer to the bill that you have presented, in order to make it I believe more near to accord with our

view of the problem. I am sure you will consider those. They cover the—the areas of those amendments are covered in my formal statement, Mr. Chairman.

With that I think I better close down and get over to the Appropriations Committee.

Senator MELCHER. We very much appreciate your appearance here, Mr. O'Leary, and your testimony on the bill.

We will take the opportunity to question Mr. Robinson after you leave, but the fact that you have been working diligently with the problem of energy for the country, and with this process of expediting the procedures, is indeed a hopeful sign.

We wish you all kinds of success in the Department of Energy. You will have a monumental task there and hopefully the Congress and the Department can work together in solving some of the problems that we face today.

Mr. O'LEARY. We have been doing very, very well these past few months.

Senator ZORINSKY. I also would like to wish you well.

You have a tremendous job cut out for you.

Senator MELCHER. Thank you, Mr. O'Leary.

[The statement follows:]

STATEMENT OF JOHN F. O'LEARY, ADMINISTRATOR, FEDERAL ENERGY  
ADMINISTRATION

Mr. Chairman and members of the committee, I am pleased to appear before the Committee today to provide the Federal Energy Administration's views on S. 1868. I am appearing in response to your invitation to Secretary Schlesinger, who regrets that he cannot be here today.

As you know, the Trans-Alaska Pipeline is currently delivering oil to Valdez, Alaska at the rate of about 700,000 barrels per day (B/D). By March of next year, with the completion of repairs to the pump station which was destroyed by fire, that rate should increase to 1.2 million barrels a day. We expect that 600,000-700,000 B/D of this volume will be absorbed by refiners on the West Coast, and that the remainder will be transshipped through the Panama Canal to Gulf Coast refiners until an overland transportation system can be built to move Alaskan oil directly from the West Coast to other regions of the country.

The Administration firmly believes that the construction of at least one, and perhaps two, of the proposed west-to-east pipeline systems is urgently needed in order to achieve an efficient and economic means of delivering Alaskan crude oil to the country which need it. While transshipment of North American oil through the Panama Canal is an acceptable short-term alternative as efficient, from the standpoint of both cost and time, as an overland pipeline system from the West Coast. The U.S. tanker fleet is limited, delay in building a new fleet would prolong our current level of dependence on foreign oil, and exacerbate a persistent balance-of-payments problem.

The Administration is currently studying proposals for construction of a system in the United States of being approved by a myriad of Federal, State, and local agencies. The status of these proposals is as follows:

SOHIO PROJECT

The Sohio project involves a pipeline from Long Beach, Calif. to Midland, Texas. The permitting process. The Federal environmental impact study is complete, and a decision on one of the major issues for the abandonment of an El Paso Natural Gas pipeline can use it for an oil pipeline—is expected on. Right-of-way permits are expected at about the

same time. Many of the regulatory approvals must come from the State of California, which is particularly concerned about the impact of the proposed terminal on air quality in the Los Angeles basin. Despite the delays that have occurred to date, the State agencies are diligently working with us to reach a final decision on the project at least by the end of this year.

## 2. NORTHERN TIER PIPELINE

The Northern Tier project would involve the construction of an all-new pipeline from Port Angeles, Wash. to Clearbrook, Minn. The Department of the Interior has assembled a staff and will begin work on the environmental impact statement for this project upon payment of a deposit and receipt of a complete application from the Northern Tier Pipeline Co., which are now overdue. The Department anticipates completion of the EIS in April 1979, provided Northern Tier moves quickly to set the process in motion. The project also requires approval from the Energy Facilities Site Evaluation Council in the State of Washington. Certification proceedings before that agency have begun but are currently in suspense, pending Northern Tier's response to a deficiency report issued by the State's contractor with respect to the Company's environmental assessment. The Siting Council's proceedings on this project are being challenged in the State courts by Clallam County, in which the oil terminal would be located, but to date this litigation has not seriously delayed the proceedings.

## 3. TRANS MOUNTAIN REVERSAL

The Trans Mountain Reversal project involves reversing the existing Trans Mountain pipeline from Edmonton, Alberta to Cherry Point, Wash., at first on an alternating basis in order that Vancouver refineries can continue to receive Alberta crude oil, and later perhaps on a full-time basis. The only Federal permit the Trans Mountain Reversal project requires is one from the Army Corps of Engineers for the construction of an additional tanker berth at Cherry Point. The Corps has begun work on an environmental impact statement, and it expects to complete all permitting decisions by October 1978. In addition, the project requires a certificate of public convenience and necessity from the National Energy Board of Canada. A Canadian decision is expected by March or April of next year. Finally, Washington State's Siting Council must approve the project. The State has not completed its evaluation of Trans Mountain's environmental report, and no schedule for a final decision is available. Progress on the project is complicated by the fact that the Cherry Point terminal location is in conflict with Washington's current coastal zone management plan, although the Governor of Washington has proposed an amendment that would eliminate the conflict. The coastal plan is also being challenged in both the Federal and State courts in Washington as having been adopted unlawfully.

## 4. KITIMAT

The Kitimat Pipeline project involves a new pipeline from Kitimat, British Columbia to Edmonton, where, like the Trans Mountain project, it would connect with existing pipeline systems serving the northern United States. It is an all-Canadian project and does not require any Federal or State government approvals in this country, but it would require a certificate of public convenience and necessity from the National Energy Board in Canada. Kitimat recently asked the NEB to suspend further action on its application and indicated it would back the Trans Mountain application, but the Kitimat sponsors intend to reactivate their application if Trans Mountain does not receive the necessary U.S. or Canadian approvals. Kitimat also remains an active participant in an official Canadian inquiry into the social and environmental impacts of increased tanker traffic on the West Coast of Canada.

## 5. TRANS GUATEMALA PIPELINE

A fifth proposal that should be mentioned is a plan to build a pipeline across the Central American isthmus in Guatemala. According to its sponsors, it already has the approval of the Guatemalan government and would not require additional governmental approvals. The major factor preventing its construction, however, is that no North Slope producer has as yet indicated a willingness to accept the risks of the project by committing itself to a throughput agreement. The sponsors



concede that without such a commitment the pipeline cannot be financed, but they claim that if the financing were obtained the project could begin construction almost immediately.

To date the Administration has not actively urged special legislation that would expedite the Federal and State approval process for the construction of one or more of these important pipeline projects. Rather, in his National Energy Plan the President announced the designation of a Federal project coordinator, who has been working informally with the appropriate Federal and State agencies to coordinate and expedite their approval processes.

These informal efforts have been successful in eliminating some unnecessary delays. But our efforts in this regard, as well as our successful experience in applying the procedures of the Alaskan Natural Gas Transportation Act to arrive at a decision on an Alaska gas transportation system, have brought us increasingly to the view that a legislative framework for a decision on west-to-east oil pipeline routes would be in the public interest. We now believe that carefully drafted legislation could provide certain advantages over our present informal coordinating efforts and is therefore deserving of serious consideration.

For example, we recognize the possibility that, without some form of Federal endorsement of a particular project, the chances are increased that none of the current proposals would receive all of the necessary State approvals. As things stand now, the States are faced with the major responsibility for deciding whether their citizens should bear the environmental costs of an oil terminal and pipeline. Such decisions are particularly difficult to make when those same States would not receive the oil that is transshipped through them. While many State officials recognize their responsibilities to the rest of the country, they may in the end find it politically impossible to approve a particular oil terminal facility in the absence of a Federal government determination that that facility best serves the national interest. Similarly, it is possible that Canada would not approve a project within its borders at least until the U.S. Government advised it that the Canadian project is superior to all of the U.S. alternatives.

Even if the States or the Canadian government might eventually approve a pipeline project, Federal route designation might at least expedite their decisions, by eliminating potential alternatives and allowing them to focus all of their attention on the Federally-designated routes.

Federal designation of a route or routes might also assure a more rational and orderly decision than might otherwise occur. Although many agencies are now involved in the permitting process, none compares the projects on an overall national interest basis by examining their relative costs or their comparative ability to supply markets where crude oil is needed. Special legislation could provide criteria for the decision which would allow for this comparative analysis and could also help to expedite the construction of a pipeline by eliminating the potential for unnecessarily protracted litigation and mandating a degree of coordination between Federal and State decision-making processes that might not otherwise exist.

S. 1868 attempts to accomplish some of these objectives, and for this reason we support its basic purpose. We do have several specific problems with the bill, however, and recommend against its enactment in its present form. I will use the remainder of my time to touch briefly on what we consider its principal defects.

First, the bill contains no mechanism for coordinating State and Federal actions or for taking into consideration decisions made by the States on these projects. We do not see any need at this time to preempt in any way the existing authority of the States to review and approve these projects under the legitimate exercise of State police powers. However, we believe it is possible and desirable to provide a mechanism for Federal-State consultation and coordination that would minimize the potential for conflicting decisions.

Second, the Secretary's power of approval in the bill is limited to the Sohio and Northern Tier projects. We assume that the Secretary could, by deciding not to approve either the Sohio or Northern Tier projects, give tacit approval to either the Trans Mountain or the Kitimat proposal. But this seems to be an awkward and ambiguous mechanism for designating such routes if they are determined to be more in the national interest, and no means is provided for implementing such decisions or for coordinating them with the Canadian Government's decision-making process.



Third, we believe S. 1868's deadline of February 1, 1978 for a final decision on the Northern Tier Project is unrealistic. Northern Tier, which at first glance stands to benefit the most from legislation of this sort, has not yet set the EIS process in motion by depositing the necessary funds with the Secretary of Interior and by completing its application. I believe the Department of Interior's witness will indicate to you later today that under no circumstances can the requirements of the National Environmental Policy Act be met with respect to the Northern Tier Project by February 1, 1978.

Fourth, the bill contains no criteria for the Secretary's decision other than that he shall decide on the basis of the "individual merits" of each project. We believe that more specific criteria should be set forth in any legislation establishing a selection process. Such factors as pipeline and terminal safety, environmental and land use considerations, cost and timing of construction, and the net national economic benefits to be realized through alternate methods of crude oil and petroleum product distribution should be taken into account.

In summary, I assure you that we in the energy agencies of the Government share your interest in expediting the construction of a west-to-east pipeline system and have been working diligently to that end. We also support the concept of legislation that would allow for a coordinated State and Federal decision-making process, especially if the present decision-making process should become hopelessly stalled. While this appears to be the general purpose of S. 1868, we think that particular bill could be greatly improved. We would therefore be happy to work closely with the Committee and its staff to draft a bill that would provide a realistic procedure for expediting Federal and State regulatory approvals of west-to-east pipeline projects.

Senator MELCHER. Mr. Robinson, if you could indulge us, perhaps we can hear from Congressman Ruppe at this time. We will have questions for you subsequent to that.

We are delighted to have you here.

Phil is the sponsor of a bill in the House very similar to S. 1868 and is one of the leaders on the House Interior Committee and a leader in the House itself.

We are delighted not only to have you sponsoring the bill in the House, similar to this, but also delighted to have you here today to offer testimony and advice to us on the legislation.

#### **STATEMENT OF HON. PHILIP E. RUPPE, U.S. REPRESENTATIVE FROM THE 11TH DISTRICT OF MICHIGAN**

Mr. RUPPE. Thank you very much, Mr. Chairman. I am very pleased you and your colleagues gave me the opportunity to appear here this morning.

I will try to make my statement as short and as rapid as possible.

Certainly the subject of Alaska oil deliverability is one that deserves national attention. I do believe it is in the national interest that Alaska surplus crude oil be made available to midwestern and north-eastern refineries as quickly and equally as possible.

I think we all know about the surplus of Alaska crude on the west coast. It is expected to reach some 600,000 barrels a day by March 1988. Obviously, pipelines must be built to provide long-term means of moving this oil to areas of the United States experiencing shortages.

I am sure that is reflected with the situation in your area and very possibly similar to situations we will experience in much of the Midwest.

Serious oil shortages do exist in Midwestern and Northeastern States.

Canadian cutback of exports and declining reserves of oil have left refineries without secure sources of supply.

Without congressional action to establish deadlines on proposals to move oil to the Midwest and Northeast, these projects may be frustrated by years of redtape.

There are several pending proposals to provide long-term solutions to west coast and inland shortages. Someone in the executive branch should be given the responsibility to decide which one of those projects will receive the Federal permits required for construction.

The last two major pipelines proposals in the country, trans-Alaska and Alaska Natural Gas, did desire Federal legislation. Without that legislation American consumers will be forced to pay the higher cost and buy the insecurity of short-term solutions, which may make financing of the long-term solutions almost impractical.

Consequently, I formally believe it is necessary to expedite the preparation of environmental assessment, supply and demand studies, and other necessary Federal permits. It was for this reason that I am supporting your bill, Mr. Chairman, S. 1868, which sets up a time frame and decisionmaking process to accelerate the necessary studies and issuance of permits.

S. 1868 and similar legislation, which I have introduced in the House, H.R. 8568, require appropriate Federal developments to make a national decision by February 1, 1978. As to which of the pending west coast to Midwest pipeline projects should receive the required Federal permits for construction, I do hope that the Senate Commerce, Science, and Transportation Committee agrees with my analysis and does take positive action on S. 1868.

With the long-awaited Alaska pipeline a reality, midwestern and northeastern consumers should not be deprived of the richest oil treasure.

I trust the Commerce, Science, and Transportation Committee will utilize the findings of these hearings held recently as the first step in the promulgation of a national policy to equitably distribute Alaskan surplus oil.

That concludes my statement.

I do want to thank you and your colleagues for holding these hearings and for expeditiously taking action on a legislative proposal which, I think, is important to Midwest and northeastern consumers throughout the country.

Senator MELCHER. Well, Phil, as a Representative from the State of Michigan, and a Member of the House, who has for years been associated closely with energy bills, your views on this subject hold a great deal of weight.

I hope we are able to start the ball rolling over here in the Senate on passage of this bill, so that it can be accomplished this year.

Likewise, I hope that, in the House, a similar bill can be acted upon promptly, so that it, too, can be passed in the House and sent through the Congress. I feel with the endorsement we have had from Mr. O'Leary, and we will hear a little later from the Department of Interior, I hope they, too, will endorse it and indicate executive approval.

Now, the pending case, as I understand it, concerning tanker traffic in the size of tankers, within the Puget Sound will be heard by the Supreme Court this fall.

Mr. ROBINSON. That is correct.

Senator MELCHER. I can't prejudge what the Court will rule, but is it a very viable proposition without an extra tanker berth at Cherry Point?

Mr. ROBINSON. This question should be directed to ARCO, but I have been advised it's possible to operate the Trans-Mountain reversal in phase 1 or 2 with the single tanker berth that is currently at Cherry Point. It obviously would be considerably more efficient with two tanker berths.

Senator MELCHER. What would phase 1 and 2 mean in volume of shipment?

Mr. ROBINSON. It's my understanding that phase 1, which is an alternating pattern, a so-called yo-yo, where oil will be transported one-third of the time eastward and one-third of the time westward, would be able to transport about 180,000 barrels a day eastward to Edmonton. In phase 2, which would involve the complete reversal of the pipeline, I believe the throughput rate would be about 300,000 to 350,000 barrels a day.

Senator MELCHER. In phase 1, it would not do much involving much of the surplus on the west coast then, and phase 2 would be better, but not tremendously better.

Mr. ROBINSON. As you know, Senator, we at the FEA have projected there is a possibility of some crude oil shortages prior to 1980 in the States of Montana, North Dakota, and eastern Washington. Certainly 180,000 barrels a day would supply at least those States with crude oil but it would not do much to supply additional volumes to Chicago and the Minnesota area.

Senator MELCHER. For a long-range solution, if the Alyeska gets up to 1.6 or 2 it's not much of an answer then?

Mr. ROBINSON. Well, there are other systems, definitely, that would provide more throughput than the Trans-Mountain reversal. I believe one of the arguments that ARCO would likely make this morning in support of that project is that it does have at least the capability of being phased up. There is a third phase to the project, too, which would involve some considerable additional pipeline construction, and looping, which could get the throughput up to the 900,000-barrels-a-day range.

One of the arguments that has been made to us in support of this proposal is that it does have the potential for gradually building up throughput to meet the potential demand of the future period, which the sponsors at least think is important in view of the fact that with the President's new energy program, conservation programs and so on, it is very difficult to predict what future petroleum demand will be in the Northern Tier over the next 10 or 15 years.

Senator MELCHER. Well, we don't find much comfort in Montana to be assured, some opportunity of crude oil that pays the ocean traffic price for transportation to Puget Sound, and then is routed up to Edmonton, quite a few hundred miles away from our refineries in Montana, to arrive there at a tariff that is probably uneconomical. We can

see two ways of closing down our refineries. One for lack of any crude oil to refine, and, two, availability of crude oil that is priced out of the market because of transportation cost that makes our operations uneconomical.

There is the question of two ways of dying. It's a question of which way you want to die. Not having the supply or not being able to buy the supply and to keep in operation to sell the product at a competitive price. But we will listen to ARCO's presentation on what their predicted tariffs are, and we will review your analysis of those tariffs, when they are made available.

Mr. ROBINSON. I will be happy to submit them. I can submit them within the next few days.

[The following information was subsequently received for the record.]

Tariff estimates for the Trans-Mountain project have been prepared independently by FEA and by Arthur D. Little and Co. Those estimates, as well as Trans-Mountain's own estimates, are presented below.

Throughput (million barrels per day) :

Trans-Mountain :	
180	\$0. 75
225	. 54
350	. 850
FEA :	
180	. 46
225	-----
350	. 79
A. D. Little & Co. :	
180	1. 37
225	1. 37
350	-----

The differences in these estimates are attributable to a number of factors, including differences in assumptions with respect to inflation, contingency costs, operating costs, and financing costs. For example, the FEA estimates are stated in 1976 dollars; the A. D. Little figures are "levelized" tariffs which reflect inflation and variable operating costs over the life of the pipeline. Trans-Mountain's assumptions with respect to these variables have not been clearly defined.

While we generally consider the A. D. Little estimates of tariffs to be the most reliable independent analysis for the other pipeline proposals, its work with respect to the Trans-Mountain project was based upon extremely sketchy data. We therefore believe that considerable additional analysis is required to project accurately the Trans-Mountain tariffs.

Senator MELCHER. To your knowledge, has there been any endorsement of the Canadia Government of either the Kitimat proposal or Trans-Mountain?

Mr. ROBINSON. There has been no endorsement as such. Both of those two proposals are in the regulatory process in Canada. As you pointed out, the Kitimat sponsors have asked that their application before the NEB be suspended, but the other official Government inquiry that's taking place up there involves a public inquiry conducted on the impact of those projects on the marine environment on the west coast of Canada. Kitimat remains as an active participant in that proceeding as is the ARCO Trans-Mountain group.

The Trans-Mountain reversal project does have an application before the NEB and the NEB is proceeding with its consideration of that application. The time schedule, I'm told by the Canadian officials, is

that they should be in a position, both with respect to the west coast inquiry and the NEB, to make recommendations to the Government by the spring of 1978. But there has been obviously no official Canadian Government endorsement because they, like us, must go through a regulatory process, to consider the environmental and other impacts of these proposals before they can approve them.

Senator MELCHER. To your knowledge, is there any concerted effort in the Canadian Government, through their Parliament, for expediting such approval, similar to our process here that we are initiating today?

Mr. ROBINSON. There is no special legislation that is under consideration to expedite. However, I might note that the Canadian process is already considerably more expedited than what we have in this country.

The only official permit that is required for a project like this is from the National Energy Board, and all Canadian regulatory proceedings are consolidated in that body. They do not have the equivalent of the National Environmental Policy Act that we have here, which requires preparation of environmental impact statements and so on, although they consider environmental issues on a more informal basis.

Senator MELCHER. I'm advised the Canadian people in the Puget Sound area are not only apprehensive but tremendously opposed to any increase in tanker traffic in Puget Sound. Have you heard anything of that nature?

Mr. ROBINSON. I think it's fair to say there is a fair amount of public concern about that in British Columbia, yes, sir.

Senator MELCHER. We have always been aware, since we considered the Alaska pipeline bill, that the Provinces of Canada do indeed exert their clout within the Canadian Government, and have a great deal more power, less to themselves as a Province, than do the individual States within the United States.

Mr. ROBINSON. In fact, in Canada, the provisions are entirely preempted with respect to approval of pipeline projects, unlike the case here. However, they do participate in the NEB proceedings as intervenors. I think you are correct, their opinions obviously do carry considerable weight with the Federal Government.

Senator MELCHER. In other words, if the people in British Columbia objected to additional tanker traffic in the Puget Sound, there would be in all likelihood a Provincial veto of any proposal that would bring that about. Is that a fair assessment?

Mr. ROBINSON. Well, there cannot be a Provincial veto in the sense of the legal right of prohibiting the project from proceeding, but as a practical matter it would amount to the same thing if there was very strong British Columbia opposition to it.

Senator MELCHER. Is there anything within the administration that makes as a part of the review process of the energy bills, a coordination with other branches of the Federal executive bureaucracy, dealing with the question of jobs, with energy solutions that we are attempting to reach?

Mr. ROBINSON. You are asking, is there anything in the National Energy Act as proposed by the administration?

Senator MELCHER. No. Any clearinghouse, any coordination at all, within the administration on the effect of energy bills related to jobs?

Mr. ROBINSON. Yes, sir. There is very definitely coordination on these subjects, as there typically is with respect to most administration legislative proposals. The Department of the Treasury, Department of Labor, the Council of Economic Advisors have all played a major role in the development of the President's energy program.

Senator MELCHER. In regard to the question at hand, has there been any review within the administration on the jobs that would be created by the construction of these two pipelines, both in the terms of construction and operation, of the pipelines themselves, but also in terms of the production of the materials that would be necessary for the construction of these pipelines?

Mr. ROBINSON. With respect to the particular west-east pipelines, there has not been. I think it's a little early in the process to have done that. If legislation like S. 1868 is enacted, and a decision is ultimately made by the Secretary of the Interior or some other Federal official, I'm sure in the process of making that decision that such a review would be made. I do know as a fact that precisely that sort of review was made in connection with the President's decision under the Alaskan Gas Transportation Act, and, as a matter of fact, the Senate might well consider adding that as one of the criteria that should be taken into account in the selection of the route, as the Congress did in the Alaskan Natural Gas Transportation Act, were it required, a consideration of the net national economic benefits of the project that is selected.

Senator MELCHER. I wonder if I can ask you to secure as rapidly as possible that information regarding these two proposed pipelines. We are talking in Sohio's case of reversal of the gas pipeline for several hundred miles but also construction of, I believe, over 150 miles of new pipe, in the case of Northern Tier. The amount of pipe that is required, and additional materials that goes with the construction of a pipeline, is tremendously greater. And it seems to me that the impact of providing the pipe and the other material along with the actual construction would have a very favorable result concerning our job situation that we are faced with now, and we would like to have that information available before the bill reaches the floor.

Mr. ROBINSON. I would be happy to try to provide it.

Senator MELCHER. Thank you very much.

[The following information was subsequently received for the record.]

Bonner & Moore's analysis, done under contract for FEA, of employment impacts for the various pipeline projects was limited to the direct and indirect impacts within the Northern Tier and did not include construction impact. The analysis projected job gains as a result of the Northern Tier and Sohio projects as follows:

Northern Tier:	
Direct employment.....	190
Total direct and induced employment.....	502
Sohio: <sup>1</sup>	
Direct employment.....	155
Total direct and induced employment.....	420

<sup>1</sup> Assumes a link with the Williams Bros. Pipeline.

Source: Bonner & Moore, "Crude Supply Alternative for the Northern Tier States."

We do not have reliable information on the other net national economic benefits, such as the relative benefits to the U.S. economy resulting not only from the pipelines themselves but from the construction of them. We understand that

Northern Tier Pipeline has indicated an interest in buying pipe from U.S. Steel, and we are aware that Sohio has signed a letter of intent to buy pipe from Kaiser Steel in the Los Angeles area. These factors are among the many that should be considered in making a decision on a pipeline project.

Senator MELCHER. Our next witness is Mr. Guy Martin, Assistant Secretary, Land and Water Resources.

**STATEMENT OF GUY RICHARD MARTIN, ASSISTANT SECRETARY FOR LAND AND WATER RESOURCES, DEPARTMENT OF THE INTERIOR; ACCOMPANIED BY GARY WICKS, DEPUTY ASSISTANT SECRETARY; AND ROMAN H. KOENINGS, ASSISTANT DIRECTOR, BUREAU OF LAND MANAGEMENT RESOURCES**

Mr. MARTIN. This gentleman is Mr. Gary Wicks, my Deputy Assistant Secretary of Land and Water Resources. In spite of the fact he is from Montana, I have found out he's worked out quite well as a deputy.

On my left is Mr. Roman Koenings, Assistant Director of Land Management Resources area, responsible for our work in this area.

Senator MELCHER. You are welcome. Proceed.

Mr. MARTIN. I am pleased to be here. As you know, from my primary role in the Trans-Alaska Pipeline and the gasoline issue, this is a matter of some importance to me, personally, and the Department of the Interior.

I want to present the Department's views on S. 1868 today and give you in some greater detail information on the actions we are taking, even at the present time, with respect to the development of necessary transportation systems, to deliver Alaskan crude oil to Northern Tier and other States.

I understand an amendment was made to your bill yesterday.

I have read the amendment briefly. It's not been analyzed as part of our testimony, but I am aware of it, so I will make the necessary corrections and additions, with your permission, in my testimony, with regard to the amendments later.

Senator MELCHER. The amendment was introduced and is before the committee to be considered, along with the bill, when we reach that state.

Mr. MARTIN. My comments today generally go to S. 1868 as introduced, although most are applicable to the amended bill. As introduced, S. 1868 would require the Secretary of the Interior to decide by February 1, 1978, which system meeting the requirements of the act should be approved and would direct the Secretary and other agency heads to take all necessary actions relating to the approval of the selected system.

We fully agree that appropriate development of transportation systems to deliver Alaska crude oil to inland States is needed and support the concept of developing of such a system.

However, we cannot support S. 1868 as introduced. Our report details at some length the administrative and conceptual problems that we see with the bill, but briefly let me outline them for the committee this morning.

First, the February 1 deadline for decision is, in our view, unrealistic in terms of environmental considerations and requirements and administrative procedures.

Even with substantial increases in manpower and funds, it is extremely doubtful that such a deadline could be met. I think I would go further and say it is virtually certain such a deadline could not be met with a great deal of integrity in the process.

The reason is, we cannot control the actions of the companies interested in constructing the pipelines, the requirements and procedures of the States through which a proposed system would pass.

Imposition of an unreasonable deadline, as we see it, could result in lengthening the process, rather than expediting.

We do not have and do not want authority at the time to compel the affected States to join with us in an environmental statement and issue the necessary authorizations for a system at Federal Government direction.

If we don't have time to coordinate the efforts with the States and meet their needs in preparation of the statement, it is likely the development of a system would be further delayed, while the States carry out their separate processes.

It would be a better approach, in our view, to establish a specific date by which all applications or proposals have to be filed and give the Secretary and affected agency heads a specific or reasonable amount of time from the date of receipt of all necessary information to complete the environmental statement and make a decision.

A further point is, the definition of "crude oil transportation system," the requirement that an application must be on file, the time limitations and other requirements of 1868 so limit the Secretary's alternatives that proposals to serve the public interest could not be fully developed and considered.

At best, we feel the choice posed by S. 1868 would appear to be between the Sohio proposal for a southern route from the Los Angeles or Long Beach area to Midland, Tex., on the one hand, and the Port Angeles, Wash., to Clearbrook, Minn., route of the Northern Tier group.

Other pipeline proposals, such as Trans-Mountain Reversal and Kitimat, should not be automatically precluded.

No one can say at this time which alternative best represents the public interest.

Certainly, that would be something we would want to consider, as Mr. Robinson indicated, as well.

If the choice in 1868 is between Sohio and Northern Tier, it is possible that the decision on Sohio would have to await an evaluation between the two.

You should know that this would delay a decision on this line, which may otherwise be made during the middle to late part of October by the Department of Interior. If at least two lines are necessary, to resolve the Alaska crude problem, as most people seem to believe, the delay would serve no purpose.

In other words, we think that it may not be necessary regarding the two routes to be directly competitive with one another. A further point is that the criteria for approval of the system in the bill appear to us to be too narrow, and are, therefore, inadequate for a full comparative analysis. The bill would require consideration of only three factors, as we read it. All related to allocation and distribution of



crude oil. It is our view that this single-purpose approach, which ignores environmental, land use, cost and time factors, is not in the public interest. We would support additional criteria relating to these factors.

Next, we believe there is a lack of clarity in the provisions for limitation on judicial review which would lead to controversy and might render the provisions useless for the purposes intended.

Specificity is needed with respect to whether the limitations are necessary under the National Environmental Policy Act. Section 10(c) (e) of the Alaska Gas Transportation Act of 1976 contains what we believe to be clearer and more precise provisions on this matter.

It may help the committee to place the problem we see with the bill in perspective, by reporting on the status of the two right-of-way applications for distributing Alaskan crude that the Department has received to date. Both were filed under section 28 of the Mineral Leasing Act of 1920 under which the Secretary is authorized to grant or renew oil and gas pipeline rights-of-way through Federal lands administered by him or where the Federal lands involved are administered by two or more Federal agencies.

With respect to one application, so-called Sohio proposal, which I mentioned previously, the environmental statement process has been completed and we expect the Secretary will be in a position to decide whether or not to issue the right-of-way after October 12.

This proposal involves transportation of 700,000 barrels of crude oil per day in a fleet of 11 tankers via a 2,200-mile marine route between the Port of Valdez, Alaska, and Long Beach.

The crude will be offloaded at Long Beach and transported through a 1,026-mile pipeline between Long Beach and Midland, Tex., where it would enter a midcontinent distribution system.

Reimbursement of processing costs is required by section 28 of the Mineral Leasing Act. Excuse me, Mr. Chairman. There is a deletion in the printing of the bill there. The next paragraph really refers to Northern Tier. They have filed an application with the Department, at the present time, and that application, I would characterize generally, as a very minimal description of the route which they seek.

In other words, they have an application before us now, which can be regarded as an application for their route, but not one on which we can with confidence base the beginning of a complete environmental impact statement.

We can do the beginning work, but not too much before that. Reimbursement of processing cost as required by section 28 of the Mineral Leasing Act.

The company, Northern Tier, has been billed for 390,000, but no money has been received.

Northern Tier submitted yesterday a letter of intent to pay the money, and the Bureau of Land Management has already taken steps to begin

I informed representatives of Northern Tier this morning that I still consider both their application and their commitment to pay the necessary funds for start-up, to be inadequate and intend to arrange a meeting within the next 24 or 48 hours with them, to explain the difficulties.

I should tell you that we have not stopped or in any way delayed actions to move toward that EIS, but we need very quickly from them, both a full commitment to make the payments and a more complete application, in order to make this application move forward expeditiously.

The approved preparation plan for the EIS on Northern Tier establishes April 30, 1979, as the target date for delivering the final environmental statement to the Council on Environmental Quality. Our experience has shown that it normally requires 18 months to complete an environmental impact statement of this scope, after the applicant develops an adequate description of the project to be analyzed, pays the advance reimbursement costs, and the environmental statement team is in position and ready to begin work.

I am sure you are aware of the figure, but in rough figures, the Trans-Alaska Pipeline EIS and the gas pipeline took about 18 months and Sohio took about 18 months, and we are talking about the same time for Northern Tier.

Although we believe that this time schedule can be improved as we go through the process, suggestion of an early date for completion at this time could result, in our view, in false expectations on the part of the applicant and Congress.

We do not want to be holding out a time for completion that we are not certain can be met or that we believe does not follow procedures that have been relatively well thought out.

We are sensitive to the extreme concerns underlying S. 1868.

If the Congress wishes to make selection of a system to serve Northern Tier and inland States, as a national priority, we are anxious to cooperate and work with you to achieve that objective.

However, we strongly urge that any legislation on this matter afford the Secretary maximum flexibility and incorporate a reasonable time frame for the required study and analysis, as required by law.

To do otherwise would undermine the environmental goals which we share and have been established by Congress and could result in the highest quality effort of the department.

That concludes the prepared remarks. I would only add at the end, I have spent a good deal of time personally on this subject.

I think you are aware of my association with the other proposals, and I am pretty firm in the belief that I have held the feet of the Department to the fire with regard to the time frame, as they compare with other projects of this type and other priorities of the Department.

I feel reasonably confident that within certain adjustments that I am being fairly honest and accurate with you with regard to the amount of time to do this job with any credibility.

Senator MELCHER. Mr. Secretary, as I reviewed S. 1868, you found perhaps some ambiguity in whether or not the Secretary would review the applications as being on competition with each other?

Mr. MARTIN. It wasn't clear, Mr. Chairman. I will have to find the language here. In terms of judging, you have language in there that each route should be judged on its own merits.

As I understand the bill, as has been amended, a good part of that may well be removed by an amendment to allow the decision to be

made on Sohio at a substantially earlier time than the schedule the Secretary proposes.

Senator MELCHER. That was one of the concerns expressed by someone that reviewed S. 1868 as introduced and that was one of the reasons for the proposed amendment. It was not the thought of the sponsors of S. 1868 that it is a question of either, it was the thought of the sponsors that we needed both, not just to transport Alaskan crude, but also the possibility of transporting some crude, as well as foreign crude.

We did not intend to have the two lines in competition with each other. I am glad you brought that to our attention, and whether or not the committee wants to consider the amendment I have offered or just accept part or parts of it. It is certainly a point that I think all of the sponsors are in agreement on.

As far as we can project, both pipelines are needed. We would not want to hamper the approval of either of the proposals.

You mentioned part of S. 1868 and the proposed amendment that deals with limitation on judicial review.

At the time of the passage of the Alaskan Pipeline Act, what was your capacity?

Mr. MARTIN. At the time of passage, I was an attorney practicing in Washington that represented the State of Alaska.

Senator MELCHER. You did represent the State of Alaska?

Mr. MARTIN. Yes, sir.

Senator MELCHER. The Secretary of the Interior, at the time of passage of the Trans-Alaska Pipeline bill in the House, opposed any limitation on judicial review of the environmental impact statement that had been developed by the Department of the Interior.

What was your position, representing your clients at that time?

Mr. MARTIN. I can't recall, Senator. I can't recall that the State ever took a specific position on that issue, to be perfectly honest.

I would be glad to check and give you an answer, but I can't recall their position.

Senator MELCHER. Through its representatives here in Congress, the State did take a position in full support of limiting judicial review.

Mr. MARTIN. I am aware the delegation supported it.

Senator MELCHER. And they supported the congressional finding that the environmental impact statement was adequate and would not be reviewed judicially.

Mr. MARTIN. I am relatively certain that was also the position of the State, although I can't recall that they ever formalized that position.

Senator MELCHER. I had several conversations with the Governor at that time and it was my understanding he was fully in support of that provision in the bill.

Mr. MARTIN. Yes, sir.

Senator MELCHER. Our analysis was at that time, if there wasn't a limitation on judicial review of the environmental impact statement, that environmental groups would challenge the environmental impact statement in Federal courts, and through the process of reaching the Supreme Court for a final determination, it would take perhaps 2½ years for a final decision by the Court, thus delaying the issuance of the permits. So we determined in the House that the environmental im-

fact statement of the Secretary was adequate, and made the finding that the Congress found it so, and prohibited any further judicial review of that environmental impact statement.

To make it clear, in S. 1868 or the proposed amendment, we do not seek to limit such judicial review of the environmental impact statement, but we do seek to expedite any challenge brought by a claim against the permits that would be issued for either of the proposed pipelines. That is an entirely different set of circumstances, but it does parallel another provision in the Trans-Alaskan Pipeline bill, that would expedite the challenging of the claim of unconstitutionality or that Congress had exceeded its authority, in any terms within the Trans-Alaskan Pipeline Act.

We follow that pattern in this bill with any challenge that might be claimed, not only against the environmental impact statement of the Secretary, but also against any permits that would be issued by the Federal agencies involved. Do you find that acceptable?

Mr. MARTIN. Yes, sir. I think we find it acceptable and your explanation of it, as I read it, or as I hear it today, it is clearer to me, the language in the bill. I think you can take an intermediate step to limit the judicial review without foreclosing review within the limits of the law.

I find that acceptable, although I think we can suggest some language change.

The suggestion we did make in the testimony, to take a look at the section in the Gas Transportation Act was really to make clear the other alternative that Congress had used in that act, really because we didn't understand whether you were trying to reach that or not in your bill.

Your explanation indicates to me that you do not, do not seek to foreclose review under NEPA. I think we can agree with that and agree with an expedited procedure.

Senator MELCHER. Now, regarding the cost of Northern Tier for their environmental impact statement review by the Department, you mentioned \$390,000. I am glad you mentioned that, because I think it is important for the public to understand that an environmental statement is paid for by the applicant and that it does cost a lot of money. What would be the total cost for Northern Tier?

Mr. MARTIN. Present estimates are approximate and it would depend on the ultimate agreement we work out with Northern Tier, but I think an estimate would be \$2.5 million.

Senator MELCHER. \$2.5 million?

Mr. MARTIN. Yes.

Senator MELCHER. I suppose that the public conception of what is available to companies involved with transportation of oil, perhaps that sounds like a moderate amount, but to me it sounds like a good deal money for private individuals to cough up for something that ultimately may just be an exercise in futility.

There is no assurance that by paying the money they get approval, is there?

Mr. MARTIN. Yes, sir. I think that is an accurate statement. As you know, those payments are required by section 28 of the Mineral Leasing Act. I assume that Congress has basically debated the policy issue

you are raising, but that is right. It is a large amount of money to put down on an application that you do not know will be granted or not.

Senator MELCHER. Congress does recognize that transportation, while it is one of the very important phases of distribution of energy products is not necessarily a highly profitable venture. Can it be said that the environmental impact statement that is necessary from the Department of Interior involves several segments of land that are separated, and that is about 10 percent of the total length of the proposal of Northern Tier's?

Mr. MARTIN. That is accurate.

Senator MELCHER. That part of the Federal land it crosses is sagebrush land in Montana, that would be returned not only to its original condition, but that also does not pose much of an environmental problem, even at the outset?

Mr. MARTIN. Well, Senator, I am going to claim to be familiar enough with all the aspects of the route to tell you that. I know it will cross land you describe, but, of course, it also crosses a variety of terrains, variety of political jurisdictions and variety of different sorts of land uses, so I would say, yes, while that is correct, it is also a very large-scale proposal. It is that interspersed pattern of Federal land, private land, State land, local land, which, in fact, creates a substantial part of the problem. It would probably be better if the land were blocked up and we could study it that way.

Senator MELCHER. Both you and I are from Western States that have as part of our States, the State of Alaska, you claim that State now as your residence?

Mr. MARTIN. Yes; I am still claiming Alaska.

Senator MELCHER. In your case, it is almost all Federal land, and in my case there is a lot, so we are used to dealing with problems concerning Federal land and the management of it. However, if the pipeline were going to be built from Louisiana to Chicago, it would be very unlikely to touch any Federal land. I wouldn't know how it would. You wouldn't even be involved with it.

Mr. MARTIN. Let me turn to Roman Koenings on that, because I think that is not quite accurate.

Mr. KOENINGS. Senator, under the Federal Leasing Act, we are responsible where two or more Federal agencies are involved. It seems unlikely that in any place you build a pipeline that long there wouldn't be some land, either military or some other ones. The only lands that don't apply here are Indian lands, national parks, and so on. So we get involved in this kind of two or more Federal agencies, where it is only a piece of land we are involved with.

The Secretary is involved in other programs as well that get us into it.

There is precious little, I can give you the figures, in terms of Forest Service and Indian lands, the 73 miles of Forest Service land, 53 miles of BLM land, and 57 miles of Indian lands out of the total proposal.

The Federal Mineral Leasing Act, the Secretary has responsibility for endangered species and things like that, and they all have to be looked at, if it goes through some area where an endangered species area has been set up, we must consider, that, to mitigate the impact on endangered species.

There are other laws which apply which become part of the environmental process.

It isn't just preparing an environmental statement that costs so much. It is all of the other things that go on. In addition to the preparation of the State, with regard to the burying of the pipeline, there are always other permits necessary which come under the Federal Land Policy Management Act. Burrow pits to get gravel, all of these things are treated at the same time. So when we are through we can go ahead and issue the permits. I hope that is a little bit of explanation of what we go through.

Mr. MARTIN. I would like to add one thing. I think in certain respects I understand what you are getting at. I see the meaning of it. I think the problem is, even if what Roman said were not true, that probably the only Federal agency that is geared up, on this size of a project to attack this EIS, is the Department of the Interior, to some extent the BLM. It could be done.

But in this case, for instance, let me say, we have on the prospective of a complete Northern Tier application, and a payment of the initial fee for undertaking this, we have gone ahead and designated a team, put them in the field, there are still some positions to be filled, got a leader and basically done the design of the EIS process. So we are pretty active already, starting to prosecute this EIS.

We are hopeful of working out details with Northern Tier in the next day or two, so that we can get underway in a major way.

Senator MELCHER. What I am getting at, in order to build something that is absolutely essential for the transportation of energy, is if there is a way of constructing the pipeline for deliverance of oil to where it is needed, to avoid the necessity of Federal permits, that way will be chosen, whether it is rerouting it to avoid any endangered species or rerouting it to avoid any touching of Federal land, it is obvious that it is cheaper to avoid.

But the overall problem is, have we imposed such stringent requirements on doing something that we know is absolutely necessary in transportation of crude oil, that it makes it impossible for private industry to have an independent group to proceed?

I think as I said at the outset, we may be looking at the classic example on Northern Tier's application. They are a private group. They are not a large oil company, with vast resources. They are, in essence, what has been the backbone of private industry in the United States.

That is, the ability of the group of people to assemble some capital, to start and initiate a project to attract a vast amount of capital to complete it.

If they are being hamstrung and forced to abandon their proposals on the basis of overwhelming delays, then it is true that something like S. 1868 is not the only need.

It is also hopeful that it isn't too late to allow them to proceed.

We appreciate the testimony you have given, Guy, and we will await a definite view from you in terms of proposed amendments to be considered in the further deliberation on this bill.

I thank you very much.

Mr. MARTIN. Thank you. It's been a pleasure to be here.

[The statement follows:]

STATEMENT OF GUY R. MARTIN, ASSISTANT SECRETARY FOR LAND AND WATER  
RESOURCES, DEPARTMENT OF THE INTERIOR

Mr. Chairman, I am pleased to appear before you this morning to present the Department's views on S. 1868 and to discuss with you our role and the actions we are taking with respect to approval and development of necessary transportation systems to deliver Alaskan crude oil to Northern Tier and other inland States.

S. 1868, as introduced, would require the Secretary of the Interior to decide by February 1, 1978, which system meeting the requirements of the Act should be approved and would direct the Secretary and other agency heads to take all necessary actions relating to approval of the selected system.

We fully agree that prompt development of transportation systems to deliver Alaskan Crude oil to inland States is needed and support the concept of expediting development of such a system or systems. However, we cannot support S. 1868 as presently drafted.

Our report details the administrative and conceptual problems presented by the bill. Briefly, they are as follows:

The February 1 deadline for decision is unrealistic in terms of environmental considerations and requirements and administrative procedures.

Even with substantial increases in manpower and funds it is extremely doubtful that such a deadline could be met, as we cannot control the actions of the companies interested in constructing the pipelines or the requirements and procedures of the States through which a proposed system would pass. Imposition of an unreasonable deadline could result in lengthening the process, rather than expediting it. We do not have and do not want authority to compel the affected States to join with us in the environmental statement or to issue necessary State permits and authorizations for development of a system. If we do not have time to coordinate our efforts with the States and meet their needs in preparation of the statement, it is likely that development of a system would be further delayed while the States carry out their separate processes.

It would be a better approach to establish a specific date by which all applications or proposals have to be filed and to give the Secretary and affected agency heads a specific but reasonable amount of time from the date of receipt of all necessary information to complete the environmental impact statement and make a decision.

The definition of "crude oil transportation system", the requirement that an application must be on file, the time limitations and other requirements of S. 1868 so limit the Secretary's alternatives that proposals to serve the public interest could not be developed and considered. At best, the choice posed by S. 1868 would appear to be between the Sohio proposal for a southern route from the Los Angeles or Long Beach area to Midland, Texas on the one hand, and the Port Angeles, Washington to Clearbrook, Minnesota, route of the Northern Tier group. Other pipeline proposals, such as Trans Mountain Reversal and Kitimat should not be automatically precluded. No one can say at this time which alternative best represents the public interest.

If the choice in S. 1868 is between Sohio and Northern Tier, it is possible that the decision on Sohio would have to await an evaluation between the two. This would delay a decision on this line which could otherwise be made shortly after October 12, 1977. If at least two lines are necessary to resolve the Alaska crude problem, as most people seem to believe, the delay would serve no purpose.

The criteria for approval of a system are too narrow and are, therefore, inadequate. The bill would require consideration of only three factors; all related to allocation and distribution of crude oil. It is our view that this single purpose approach, which ignores environmental, land use, cost and time factors is not in the public interest. Additional criteria relating to these factors are needed.

Lack of clarity in the provisions for limitation on judicial review would lead to controversy and may render the provisions useless for the purposes intended. Specificity is needed with respect to whether these limitations apply to suits under the National Environmental Policy Act. Section 10(c)

(3) of the Alaska Gas Transportation Act of 1973 contains clear and precise provisions on this matter.

It may help the Committee to place the problem we see with the bill in perspective by reporting on the status of the two right-of-way applications for distributing Alaskan crude that the Department has received to date.

Both were filed under Section 28 of the Mineral Leasing Act of 1920 under which the Secretary is authorized to grant or renew oil and gas pipeline rights-of-way through Federal lands administered by him or where the Federal lands involved are administered by two or more Federal agencies. With respect to one of the applications, the so-called "Sohio proposal" which I mentioned previously, the environmental statement process has been completed and we expect that the Secretary will be in a position to decide whether or not to issue the right-of-way after October 12. This proposal involves transportation of up to 700,000 barrels of raw crude oil per day in a fleet of eleven tankers via a 2,200 mile marine route between the port of Valdez, Alaska, and the port of Long Beach, California. The crude oil would be off-loaded at Long Beach and transported into a 1,026 mile pipeline system between Long Beach and Midland, Texas, where it would enter an existing mid-Continent-distribution system.

The other application was filed by the Northern Tier Pipeline Company on April 15. This System would involve a common carrier facility accepting crude oil from Alaska and world markets by tankers at the Port Angeles, Washington terminal. The 1550 mile pipeline, 42 inches in diameter, would have a capacity to deliver 933,000 barrels per day to Clearbrook, Minnesota, with connections with intercepting lines to deliver oil to Montana and North Dakota.

It has been determined that approval of the application would be a major Federal action requiring preparation of an environmental impact statement. Initial contact has been made with all Federal agencies, State governments and some local governments involved in the pipeline proposal. Coordination meetings have been held with involved agencies and a preparation plan for developing the required environmental statement has been prepared, approved and distributed to the concerned agencies.

The environmental statement team leader has been hired and he has reported for work in Portland, Oregon. Additional team members will be hired, and we hope to have most of the team at work in Portland by November 15, 1977.

The approved preparation plan establishes April 30, 1979, as the target date for delivering the final environmental statement to the Council on Environmental Quality. Our experience has shown that it normally requires 18 months to complete an environmental statement of this scope after the applicant develops an adequate description of the project to be analyzed, the applicant pays the advance reimbursement costs, and the environmental statement team is in position and ready to begin work.

Although we believe this time schedule can be improved upon as we go through the process, suggestion of an earlier date for completion at this time could result in false expectations on the part of the applicant and the Congress. We do not want to be holding out a time for completion that we are not fully certain can be met.

Reimbursement of processing costs is required by Section 28 of the Mineral Leasing Act. The company has been billed for \$390,000; but no money has been received. However, Northern Tier has just yesterday submitted a letter of intent to pay the money and the Bureau of Land Management is proceeding with the environmental statement process.

We are sensitive to the extreme concerns underlying S. 1868. If the Congress wishes to make selection of a system to serve Northern Tier and inland States a national priority we are anxious to cooperate and work with you to achieve that objective. However, we strongly urge that any legislation on this matter afford the Secretary maximum flexibility in considering alternative systems and incorporate a reasonable time frame for required studies and analyses. To do otherwise could undermine the environmental goals which we all share, and could result in less than our highest quality effort.

This completes my prepared remarks. I would be happy to discuss the Northern Tier proposal with you further and answer any questions you may have.

**Senator MELCHER.** Mr. Michael Curran, president, Northern Tier Pipeline Co.



**STATEMENT OF D. MICHAEL CURRAN, PRESIDENT AND COFOUNDER,  
NORTHERN TIER PIPELINE CO.; ACCOMPANIED BY VINCENT E.  
BUTLER, DIRECTOR**

Mr. CURRAN. Mr. Chairman, I would like to introduce Mr. Vincent Butler, a cofounder of Northern Tier; and his company, Butler Engineering, has prepared most of the engineering for the Northern Tier Pipeline.

Mr. Chairman, members of the committee, I am D. Michael Curran, president and cofounder of the Northern Tier Pipeline Co.

I appreciate the committee's invitation to participate in this important hearing and to present testimony on S. 1868, the National Crude Oil Supply and Transportation Act of 1977. Today's hearing and the legislation pending before this committee provide needed focus on an urgent energy transportation problem facing the Northern Tier States, the west coast, and indeed, the Nation as a whole.

I have heard much of the discussion of the Nation's crude oil supply problem this morning. There are basically two major crude oil supply problems facing the country. First is the developing crude oil surplus on the west coast; and second, a growing shortage in the Northern Tier and Upper Midwest States.

I think the question of the surplus, which is in my prepared statement, and the Northern Tier-Upper Midwest shortage, has been discussed at some length this morning, so I will depart a bit from my prepared statement.

I would however, in view of some of the recent testimony like to discuss before I get to the description of the Northern Tier project, some of the problems, permitting problems, that relate to a pipeline. In permitting, other kinds of large energy projects, a nuclear plant, steam generation plant, a company can go out and option or buy 1,500, 2,000 acres, build a fence around it, and the environmental impact statement is basically for this one area may cover just three sections and one township. It is very easy to pin it down, where you are going to build the plant and what the impact in this one area will be.

We are talking about a system 1,550 miles long, running from a deepwater port and from the pristine area in western Washington, to northwestern Minnesota.

We have to, in the West, out of necessity, cross public lands. Really under the laws that exist today, if we wanted to build this pipeline from Chicago to Houston or from Chicago to Mobile, we wouldn't have any EIS statements to file, because we wouldn't cross any public lands.

There is a pipeline being built today from the Chicago area to central Alabama, with no EIS statements. The company did the engineering, and went out and secured the easements from private landowners for right-of-way and they are building the system. My company alone has been involved this year in the construction of some 600 miles of pipeline, where no EIS statements were required at all.

Now, it seems to me that we in the West are being penalized to a degree, that it is possible to go to the gulf coast without this tremendous expenditure, but to go to the west coast will cost up to \$25 to \$30 million.

I might give you a little history here, which I think—keep in mind, too, we are doing nothing in the construction of Northern Tier that is a very great departure from the 300,000 miles of crude oil pipeline there are in this country today.

During the sixties we had oil pipeline systems of this size built in 18-month periods of time for far less compelling reasons. Two examples of this, that I recall, are Capline a 40-inch crude oil pipeline from just north of New Orleans to central Illinois, which moves over 1 million barrels of oil today from the gulf coast area, and Colonial Pipeline transports gasoline, heating oil, from the Texas-Louisiana coast to the southeastern States, and as far north as Newark, N.J., present capacity in excess of 1 million barrels a day of product. Capline is the largest crude oil pipeline of the lower 48 States and Colonial is the largest product pipeline.

Both systems were financed by the oil companies from the use of throughput agreements. Both of these systems were on stream and delivering oil in less than 2 years' elapsed time. That is from the time the respective boards of directors made the decisions to proceed, they were delivering oil and product in 18 months. I know these to be facts because construction companies I own were involved in construction of both projects. Both projects would be regarded as high profile projects today, and if you rolled in the cost of a deepwater port facility, a part of Capline's construction cost, each would cost far more to build than the Northern Tier project in terms of 1977 dollars. Northern Tier's estimated cost is \$1.2 billion. These projects would cost in excess of \$2 billion each in 1977 dollars.

After the aforementioned facts and in view of the President's statement, the energy crisis is the moral equivalent of war. You may well ask if we can do it in the 1960's, why can't we react today or in 1977?

We appear to have been far more efficient in solving our pipeline problems, in the noncrisis environment of the sixties than the energy crisis environment of the seventies.

The reason private capital ventures for high profile projects, such as ours, experience extended delays from financing problems, are in two areas which are as follows: Permitting procedures—Federal permitting procedures as well as individual State permitting procedures. Permit procedures of both Federal and State level run into the millions of dollars and can drag out for years. This greatly increases the amount of both front-end and long-term financing required.

Now, you have today, and I think you will hear testimony to this effect, that Sohio, one of the large oil firms of the world, in relationship with British Petroleum has spent \$35 million, and yet they haven't laid a joint of pipe.

You will find in applications for both Seadock and Loop funds in the area of \$20 million each have spent with permits that have so many strings on, you don't know whether you can get long-term financing.

So, in Northern Tier's case, we are preparing EIS's. We intend to proceed as rapidly with all applications necessary for all governmental permits while at the same time Northern Tier does not intend to spend any funds which are not absolutely required. You can get in a trap in this present scheme of permitting, where you just heard a man testify that the Federal EIS could cost \$2½ million.

Now, that would just be the Federal part of it. This wouldn't be the State part of it.

In addition to that, they could ask us for so much detailed engineering as far as individual designs of each, or specific design for each lineal foot of this pipeline, to the point that the engineering cost to support this EIS could approach \$15 or \$20 million. And yet in this expenditure of \$20 or \$25 million, we still don't know really whether we are going to have a permit. This makes any high profile pipeline, that crosses Federal lands, terribly expensive and very, very high risk, and really slows down the reaction time.

I mean if the shortage is here and the surplus is here, and picking up the surplus and taking it to the crude deficit area, this could be done. If we had permits in hand today, we could start construction of Northern Tier next spring and be on stream in the fall of 1979.

You have just heard from Interior that they think they will complete EIS's in April 1979. This means that the permits probably wouldn't be issued until that summer. So effectively, we would be restricted from starting work until 1980.

Now, here on a pipeline we don't have the opportunity to go out and option just one little block of land. We really can't start—we don't buy the right-of-way for this complete system. We get easements from the private landowners.

Until we get the EIS permits, we can't go out and start to get easements from private landowners, and these easements are for some 1,400 miles of this pipeline.

What I am saying, we feel almost handcuffed today in reacting as promptly as we know we can react in this industry, we really have no way, when we start this process, we have taken aerials of this system all the way from Port Angeles, Wash., to Minnesota. We have done the very best we can to pick out all the river crossing points, all the points where we cross the mountains, this type of thing, but keep in mind, that on this same system, if we went from Chicago to Houston or Chicago to New Orleans, no EIS would be required.

At this time I would like to have the opportunity to describe our system, what we think the advantages are, and the various systems that are proposed to satisfy the crude deficit problem in the Middle West.

I would like to introduce Mr. Vincent Butler and have him describe the project as illustrated on our map here.

Thank you.

Mr. BUTLER. This map was prepared to show not only the Northern Tier Pipeline but also the proposed pipelines that other companies have suggested, and also the pipelines that would tie into the Northern Tier Pipeline system to distribute the crude oil to various areas of the country. As was stated earlier, the Northern Tier Pipeline, and I want to make this clear, was not necessarily designed for the transportation of Alaskan crude oil exclusively. It can handle crude oil from any part of the world.

Now, it would start here at Port Angeles and come off here at Clearbrook, Minn., where it would tie into the Lakehead pipeline system. You can see the Minnesota pipeline system delivers crude oil to the

Twin Cities and the Lakehead system delivers crude oil for the eastern part of the United States.

Now, the colors that are shown here, this is the primary market area for the Northern Tier system. This is the secondary market area of the Northern Tier system. This primary area has 2.3 million barrels per day of refining capacity. This area has got about 600,000 barrels a day of refining capacity and we could reach, by coming into this general area, a total of 4.2 million barrels a day of refining capacity, or 66 refineries.

The salmon-colored area you see up here in eastern Washington is an area of influence that can be served by the Billings refiners. There is an existing products pipeline that comes on into this area of the State of Washington from Billings.

Now, the alternatives to the Northern Tier system, which frankly I am not really for, because they go through a foreign country, but it may or may not be economical, is a Trans-Mountain system, proposed which goes up to the Edmonton, comes down in this direction and the Kitimat system. These have already been discussed.

This is the Sohio system that comes into the breadbasket area of Texas for delivery of crude oil into the gulf coast.

Now, the Northern Tier Pipeline system is a system that is designed to handle 933,000 barrels per day of crude oil. It's a 42-, 40-inch system and it's estimated to cost \$1.2 billion. We estimate we can have it in operation within 2 years of the time that we receive the permits and proceed with construction.

In addition, I would like to point out that Port Angeles is the closest point to the Alaskan source of crude oil, but in addition to that, it's the port in the United States that is closest to the Persian Gulf and to the Indonesian crude oil ports. It's closer than Galveston in the State of Texas, from the Persian Gulf there is a 1,700-mile difference.

In addition, the port of Port Angeles can handle the largest tankers afloat, it can handle tankers up to 300,000 deadweight tons, it has in excess of 100 feet of water, and it's in a clear position by its protected harbors to handle tankers year round.

That briefly is a description of the Northern Tier Pipeline system. I would be happy to answer any questions that you or anyone might have regarding it.

Mr. CURRAN. Senator, I have some more testimony.

Senator MELCHER. Proceed.

Mr. CURRAN. Because the location of the port facility is critical to the Northern Tier Pipeline system, permit applications and environmental studies were initiated in the State of Washington during July 1976. The remaining actions in Washington include completion of an environmental impact statement, completion of a second round of public hearings. Recommendations are then made by the Energy Siting Council to the Governor, who makes the final decision on site certification.

A series of meetings were conducted by Northern Tier during July 1977, with appropriate officials in Idaho, Montana, North Dakota, and Minnesota. State permitting procedures can be completed within the time frame established for the completion of the permitting process by the Federal agencies.

## REFINER SHIPPER SUPPORT

There is interest in the project on the part of many refiner shippers in the Northern Tier and Upper Midwest States. Amoco Oil Co. has conducted an intensive study of the project and compared Northern Tier to all other alternative systems or proposals, for moving new volumes of crude oil to their market area. Their studies have concluded that, first, Northern Tier has the lowest transportation cost of all systems considered, and second, Northern Tier meets the immediate needs for Northern Tier States as well as a projected crude oil shortfall in the Upper States of the Midwest.

Based on these studies Amoco joined with the Northern Tier to undertake a joint study of the project. This entailed a major financial contribution by Amoco to the project. Unfortunately, Amoco has terminated further contributions to the project. In summary, their reasons are as follows. First, the capital cost of the project of \$1.2 billion is too large for any single company to underwrite. Second, major uncertainties associated with Government policy, tariff structure, crude oil pricing, pipeline divestiture, limitations on oil industry joint ventures, delays in issuance of local, State, and Federal permits and widely variable Midwest crude oil demand projections did not provide a basis for firm and prudent corporate planning.

Mr. Chairman, Amoco and other refiners in the Northern Tier States are presented with an anomalous position. They apparently are not going to participate in the construction of a large modern efficient crude oil pipeline system that will provide major savings in transportation cost to their consumers, because of uncertainties in State and Federal policy.

Instead, Amoco and other Northern Tier and Midwest refiners are exploring investments less capital intensive, projects which are far less economic and efficient, projects which have higher transportation costs and higher consumer costs to move a relatively few thousand barrels of crude oil, over existing systems to meet the projected demand over the next year, and 18 months.

What I'm saying is, the industry, because of confusion that exists today, in crude oil pricing, and in the position that integrated oil companies can take in pipeline, is going through a period of what I call Bandaid solutions to crude supply problems.

Very short-term small capital, but they simply don't know what the world is that they live in at the moment and it's very difficult to attract the type of capital (\$1,200 million) it will cost Northern Tier to build. The reserves in Alaska and Indonesia and the Persian Gulf are there to support the pipeline system for the life of the project, but you are in a world where nobody really knows what the rules are, as far as rate of return is concerned, the return on capital, for large pipeline companies.

These are the issues which face the Congress and executive branch. These are the issue which are sought to be addressed in S. 1868. We need S. 1868. I feel without it there is no real solution to the crude supply deficit in the Northern Tier and the Upper Midwest. The best feature associated with the Northern Tier project is consumer benefits. The primary benefit of the Northern Tier pipeline system is to the consumer.

It will provide the lowest cost oil transportation cost—the lowest crude oil transportation cost to the refiners in the Northern Tier and Upper Midwest States, thus assuring the most economical supply of petroleum product essential to the economy of these States. Because Port Angeles is the closest U.S. port to all the world crude oil producing areas and can accommodate tankers in excess of 300,000 deadweight tons, tanker rates will be lower than other U.S. ports.

#### EMPLOYMENT AND ECONOMIC BENEFIT

##### *Construction*

Northern Tier system will provide benefits to many sectors of the country. For example, approximately 700 and 20,000 tons of steel will be required to manufacture the storage tanks for the system, as well as the line pipe. The manufacture of that amount of steel pipe and tank steel would generate the equivalent of approximately 4,500 jobs for 1 year in the steel industry.

During the construction phase of the project, an average of 4,200 construction personnel will be needed over the 8- to 12-month pipeline construction period and 270 other construction personnel will be required for approximately 18 months, to construct the marine terminal and pump stations.

It is especially significant to note in the case of the proposed Northern Tier pipelines, all the employment and other economic benefits will be realized by States and counties, especially—and especially the people of the United States.

This is not the case, however, with the proposed Kitimat or Trans-Mountain reversal process. The development of an embargo proof crude oil supply system completely under U.S. control from the west coast to the Northern Tier and Upper Midwest, and eastern market will be a definite national defense asset.

In addition, the pipeline route crosses thick salt beds in the Williston Basin in Montana and North Dakota, thus offering opportunities to provide strategic storage at locations other than the gulf coast. Strategic storage locations in Montana and North Dakota would provide uninterrupted oil delivery to the Northern Tier States during an embargo.

Mr. Chairman, to date the policy of the Government with respect to the crude oil surplus and allocation of the surplus to other regions has been to rely upon the best efforts of the Nation's crude oil industry. Specifically, Federal policy with respect to alternative transportation system proposals has been that these proposals should proceed in accordance with existing law and that they do not require special legislative or administrative treatment.

Authorization and construction of the Northern Tier crude oil pipeline system does not necessarily require or is it dependent upon passage of new legislation, adequate legal authority is available at the Federal and State levels to grant all required permits and authorizations for construction of the system.

The problems the Northern Tier Pipeline system has experienced to date involved delay and indecision, rather than questions of legal authority. They have involved uncertainty created by Federal and State policy.

The purpose of S. 1868, as I understand the bill, is to get the Federal Government involved in finding answers to the problems facing the Nation. To reduce uncertainty and expedite Federal and State decisions on the authorization and completion of one or more U.S. crude oil transportation systems.

The Northern Tier Pipeline Co. endorses S. 1868. We believe it is the right action at the right time. We would be glad to furnish the committee further detailed comments on the bill.

Mr. Chairman, I want to express my deep and sincere appreciation to you, to the members, chairman of the full committee, for focusing congressional attention on the critical crude oil supply problems facing the Nation.

If the committee needs or requires more information or testimony, we will cooperate in any way possible.

Thank you.

Senator MELCHER. Mike, first of all, you have touched on some of your experiences in pipeline construction. I want to be sure, that in our record, we establish your credentials. The pipelines that you have built, both in the United States and abroad, are of the great size?

Mr. CURRAN. Yes, sir. We were known as a Big Inch pipeline contractor, which meant 36, 40 inches, and some experience on 48 inches.

Senator MELCHER. I know you are a resident of Montana, but I want the record to show that, too.

Your connection with Northern Tier, to my knowledge, is to be one of solving the problem not only for our State, but our neighboring States and a great portion of this country. If you are successful in getting the permits and building the pipeline, the question of not owning the oil but just transporting the oil and the return for that generally is a very moderate return, is it not?

Mr. CURRAN. That is right.

Senator MELCHER. So, I have described you as independent in terms of, in terms of the oil business. I think that is a fair representation of your status, is it not?

Mr. CURRAN. That is right, sir.

Northern Tier is made up of substantial companies, as you know. However, we own no North Slope oil reserves. We would simply be a transportation company, and a very efficient one, I believe; but I would like to point out, while we are substantial, we don't have Sohio's problem of owning half of the North Slope or Prudoe Bay reserves and we don't require marketing provisions to dispose of those reserves, which once you start to sell, you have the reserves, it generates tremendous funds.

Our income, return on investment, has to come simply from the tariff on the pipeline.

Senator MELCHER. Which is what?

Mr. CURRAN. The rate of return or the tariff—

Senator MELCHER. No; we will get into the tariff but the rate of return is what?

Mr. CURRAN. Eight percent. You don't really know today what it is. This is one problem we have with the new Energy Office. The rate of return which has been allowed by ICC on oil pipelines has been 180 degrees different from the formula allowed by the FPC on gas pipelines. They were two different worlds.

Now, you are throwing those worlds together and nobody knows what the real world is.

Senator MELCHER. I have heard this problem mentioned. It would solve some of the uncertainty if it were clear what the rate of return would be and the process for arriving at that rate of return, in order to set the tariffs, if that were made clear at this time. Is that correct?

Mr. CURRAN. It would very much expedite the process because today it is impossible for us to tell prospective investors in Northern Tier just what rate of return will be allowed by the Government.

Senator MELCHER. As a proponent and an owner, one of the owners of Northern Tier, your proposal is to advance a concept and a specific solution for transportation of the crude, and to pay the front-end cost. Is that correct?

Mr. CURRAN. That is right.

Senator MELCHER. Now, we heard from the Department of Interior that the environmental impact statement cost that would be necessary for them to arrive at a point where they could say yes; or no; to granting the permit, would cost about \$2½ million.

Northern Tier, if they secure the permit, then goes into the business of attracting capital to actually construct the line?

Mr. CURRAN. That is correct.

Senator MELCHER. So, the question is, what are the rules and what is the time frame so you can start the process of attracting the capital of actual construction?

Mr. CURRAN. That is right.

Senator MELCHER. How is that done? Who would be the people that would make the investment, in order to pay the \$1.2 billion or whatever it is for the actual construction of the pipeline?

Mr. CURRAN. Historically, the debt to equity ratio on pipelines has been in the area of 10 percent equity, 90 percent debt.

Now, this debt, or insurance company money, if you will, has been supported by what are called tender agreements. A tender agreement basically is that a major oil company or refiner agrees to ship, let's say, 100,000 barrels a day at a specific price per barrel, from Puget Sound to Chicago, for a 20-year period. These tender agreements are the guarantees over 20 years that the pipeline is going to be used, and usually because the major oil companies have put up the instrument that makes possible the long-term financing, they take a piece of the equity.

Now, that in history, Colonial, Capline, almost every major oil pipeline has been financed in this fashion.

Senator MELCHER. How many refineries would be likely to accept oil off of Northern Tier?

Mr. CURRAN. Oh, minimum of 30.

Senator MELCHER. Thirty refineries, some in Montana?

Mr. CURRAN. Some, Northern Tier won't have a complete tariff. For instance, serving Minneapolis, Northern Tier would deliver to Minnesota pipeline at Clearbrook, Minn.

In serving Chicago, we would deliver to Lake Head pipeline at Clearbrook, Minn.

Serving Casper or Kansas City, we would deliver to Butte pipeline on the Montana-North Dakota border.



What I am saying basically, Northern Tier is a trunkline that will tie into a distribution system that is already in place, so some of these delivered prices to these refiners will be a joint tariff, but, say, between Minnesota pipeline and Northern Tier, or between Lake Head pipeline and Northern Tier.

Senator MELCHER. The tariffs are established up until now at least by the ICC.

Mr. CURRAN. That is right.

Senator MELCHER. If there were 30 refineries—did you say a minimum of 30?

Mr. CURRAN. Yes.

Senator MELCHER. Thirty refineries as a minimum, scattered over what, a dozen States, 15 States?

Mr. CURRAN. Montana, North Dakota, Minnesota, Illinois has a concentration of refineries, Senator. Indiana, Michigan, Ohio, as far east as Buffalo.

Senator MELCHER. This, as I understand it, would not be just Alaska crude. It could be Indonesian crude. It could be Elk Hills crude, it could be Persian Gulf crude?

Mr. CURRAN. Yes, sir.

Keep in mind, all Alaskan crude that has been found to date, the sour crude, it may be that they will come up with some sweet crude, but we have to satisfy some sweet crude, which is low sulfur, and this would have to come from Indonesia or Persian Gulf.

Senator MELCHER. The refineries in Montana, Billings and Laurel, were constructed originally to handle sour crude. Because that was the crude that was available. They since have been somewhat modified to handle the sweet crude that they use from Alberta.

What is the likelihood of sour crude from Alaska being in demand in refineries that you would be able to serve as Northern Tier?

I can answer the question for Billings and Laurel because I have gone over it individually with those refineries and they tend to handle a large percentage of the run as sour crude, because they can adapt back to what they were originally.

But what about other refineries?

Mr. CURRAN. Amoco's studies and our own have shown there is sour crude refining capacity in the areas served by Northern Tier of 700,000 barrels per day.

Senator MELCHER. That is currently, right now.

Mr. CURRAN. Right now.

Senator MELCHER. 700,000.

Mr. CURRAN. That is right. Part of what would not be displaced because part of it is sour Wyoming crude, some of it is sour Montana crude, but a good portion of it is sour Persian Gulf crude, that is being refined at the moment.

Senator MELCHER. I see. As part of your testimony, you have submitted tariff projections from both Valdez and from Persian Gulf, to indicate what the projected tariffs would be. Based on 8 percent return of the oil transported over Northern Tier, this again would be joint tariffs, involving not only the various pipelines involved but also the estimated ocean tanker tariffs.

Now, in the preparation of these tariffs, which indicates that Northern Tier combined tariff to Chicago would be cheaper than the pro-

posed Trans-Mountain or the Kitimat, or Sohio, based on oil that would go through a new pipeline from Cushing to Chicago. Now, these tariffs are projected tariffs, however.

What do you have to back up? I mean, is it just your opinion that this is the tariff that would result?

Mr. CURRAN. I will have to defer that to Mr. Butler.

Mr. BUTLER. It's not just a matter of opinion. It's based on development of tanker rates to the ports serving each one of these pipelines. The existing tariffs at pipelines that tie into the various projects, as well as announced or indicated tariffs by the various projects that propose to serve these markets.

The tariffs that we indicate are obviously tariffs that we developed based on the economics of our own project. No; they are not conjecture.

Senator MELCHER. Has Amoco, who was participating with you on the financial end for a time, did they project this based on their own studies?

Mr. BUTLER. They projected tariffs, yes, but we also reviewed these with Amoco and they are in agreement with them.

Senator MELCHER. The tariffs you have submitted are Amoco's findings also?

Mr. BUTLER. They have been reviewed with Amoco. I wouldn't want to speak for them.

Mr. CURRAN. They are substantially the same, Senator.

Senator MELCHER. I noted in Amoco's statement when they said they would no longer put any more money into the preliminary stages of Northern Tier, that they said in that same statement that they were firm in their belief that the most advantageous tariffs to Northern Tier States would result from the construction and operation of Northern Tier pipeline.

Mr. BUTLER. That's true.

Senator MELCHER. I have previously reviewed with Amoco earlier this year, these projected tariffs which indeed did show a more favorable tariff using Northern Tier than for Billings much more favorable than any other route. I noted it was more favorable for the Twin Cities, Chicago, and some points in the Midwest. I just want to be sure that—the study which was quite extensive, as extensive as any group that I am aware of, including your own, I might say, on this problem, were favorable. I want to be sure that they agree with what you have presented here for the committee.

Mr. BUTLER. I agree with it because we reviewed it with them and we worked them out together.

Senator MELCHER. I see. They are joint projects. I want to also establish the joint projects, if the rules remain the same on rate return and how you compute a tariff, are they something you can hang your hat on or are they just something that fade that away after a few months?

Mr. BUTLER. You can pretty well hang your hat on it. The only thing we don't have any control over are the tanker rates. Outside of the tanker rates, yes.

Senator MELCHER. Everybody involved at least from Valdez to the lower 48 would have to pay whatever is arrived at in tanker rates because it's under the Jones Act?

Mr. BUTLER. That's right.

Senator MELCHER. Now, and the bottom line on all of this, if you are trying to arrive at something for the public interest, you have to look at tariffs in order to determine what is more favorable for construction. I think we have to be advised here in Congress of what will best serve consumers. I have already expressed an apprehension that if we can survive in the Billings-Laurel area with our three refineries and the one in Great Falls, which is smaller, a Phillips refinery, if we are going to survive, we have to have the crude oil available, but also at tariffs that are competitive. We are not in a position to refine any product that would cost a great deal more than it would cost the other refineries in the Northern Tier States. In trying to arrive at what the projected tariffs would be, what time frame have you projected for construction so as to determine whether or not those costs might go up substantially, and therefore force tariffs up to match them?

Mr. BUTLER. In developing the tariffs, we base them on the escalated value of the pipeline and that the pipeline would be completed in late 1979. Those costs are escalated 1977 costs. So the tariffs are not based on today's cost. They are based on 1979-80 costs. In addition to that, the tariffs that we show here should hold up until 1985. These are what we and Amoco have calculated to be the 1985 cost of transportation.

Senator MELCHER. You testified you could start if you had the Federal permits in hand, next spring.

Mr. CURRAN. Yes.

Senator MELCHER. What if the Federal permits and the State permits were in hand, say, in March or sometime next spring?

Mr. CURRAN. We can't go out really and option right of ways, Senator, until we have some permits. We have hundreds of landowners, private landowners to deal with in optioning a right-of-way 100 feet wide.

Now, a permanent easement will only be 50 feet, but a construction easement for 100 feet.

Now, to put the parties in the field to secure this—really, the ideal thing, if you were going to start work next spring, you would have right-of-way people in the field next month. You can do it with 6 months' leadtime or maybe 4 months' leadtime. But to come up to April or May and try and buy pipe, you are talking about buying substantial quantities of pipe that are special order, special metallurgy, that have to be scheduled in the mills, and to have the steel industry react fast enough to put any large tonnage on the ground in that first working season, if you didn't give them an order until April or May, it would be difficult to do and it would depend on the pipe demand at that time.

Mr. BUTLER. I think what we are talking about, Senator, it's a very difficult planning program to decide when you are going to start construction of a pipeline, if you don't have a schedule as to when the permits are going to be issued. It's that simple.

Senator MELCHER. The testimony, as given, is to the effect that the time frame that's considered in S. 1868 which is a clearance of Federal permits by February 1, that you feel confident that the State permits could be issued by that time also, if the Federal permits were expedited to that extent?

Mr. CURRAN. I don't know that all of them would be, Senator. I think in certain States, the position would be, Northern Tier, why are you crowding us for these permits? What is the status of your Federal permits? And it gives the States an out, to a degree, if you will. I know that if we had this legislation, S. 1868, that we could have some State permits, where we could go to work next year. We might not have them all.

Senator MELCHER. Is it a whipsaw proposition? Why are you bugging us, you don't have the State permit, the Federal people say that and the State people don't bug us, you don't have the State permits?

Mr. CURRAN. That's right.

Senator MELCHER. The time frame has been objected to by both the FEA and the Department of Interior, as being too short a time frame, and the committee will be very cognizant of any recommendation they make regarding the time frame, but I want to establish in your own mind, what is the latest time that you feel that these permits, if issued, that you could do some good in construction during 1978?

Mr. CURRAN. We can't talk in terms of so many months. We have clear across the Northern Tier, we think of this project in terms of working seasons, and in the Dakotas and eastern Montana, we can start construction in April, and in the Prairie areas, work up until the 1st of November.

In the mountain areas we would be limited to maybe 4 or 5 months actual construction, and would have to schedule our gangs in that fashion, so a permit that is given to us in the late spring really knocks out that construction season. We have to have that by the 1st of February to be effective in the working months, if you will, for that year.

Now, the cost of pipeline construction in the mountain areas or in the primary areas of Montana, North Dakota, in the wintertime, can double. When you have 3 or 4 feet of snow, you are not very productive. Normally, this part of the country, in the summertime, you would have production rates that would average 6,000, 7,000 feet a day, with the biggest gang. It is cheap construction.

Now, as far as the time for the environmental impact statements you know it would be a little different if no pipelines had ever been built in this country. There's a 36-inch pipeline that enters the State of Washington, up north of Spokane and traverses the whole State, and goes on down to California. It is a pretty easy thing to look at that system that has been in. It was built in about 1958 or 1959, it is a gas pipeline. It's been in there for 10 years, anyway.

You can tell what impact it had. There's a 16-inch products pipeline that runs from Cherry Point, Wash., to Portland, Oreg., that has been in there for 15 or 20 years.

There are pipelines that traverse the whole State of Montana. In fact, we parallel from Spokane to Billings pretty much the Yellowstone Pipeline. The Cenex Pipeline runs from Billings to Minot, and then from Minot to Clearbrook, Minn., you have the Portal Pipeline.

What I am saying, sir, is that there are pipelines all the way from Puget Sound to Clearbrook, Minn., that have been in place, and I think it is a comparatively simple matter to analyze what the environmental impact of these systems has been and to write in any restrictions you

might have, based on the 15 or 20 years experience you have with pipelines in place all across this area.

Senator MELCHER. Well, at one point, didn't you consider Cherry Point?

Mr. CURRAN. Yes, sir.

Senator MELCHER. Your proposal now is from Port Angeles. How did that come about?

Mr. CURRAN. The Environmental Coalition in the State of Washington, when we started, and the Governor of the State of Washington suggested we go to Port Angeles. There are two basic laws in the State of Washington. One is the tanker limitation law that says inside a line that runs roughly from Victoria, British Columbia, to Port Townsend, that you can't take a ship bigger than 125,000 tons. Now, we cannot live economically on tanker shipments, particularly from the Persian Gulf and Indonesia with this restricted tanker size.

The tanker rates per barrel or per ton would simply be too high. Now, the other law in the State of Washington is the Coastal Zone Management Act. This Coastal Zone Management Act, as it is written today, specifies that Port Angeles shall be the oil port for off-loading, and that big ships or additional oil traffic shall be restricted within the inner Sound.

Now, on the basis of that, the Environmental Coalition in the State of Washington has endorsed our location at Port Angeles.

I guess the analogy you could make on Port Angeles is, it is a little bit like when you are on an interstate highway, outside of an urban area, and you built a turn-off on the Strait of Juan de Fuca, which would be your intermediate highway, where you pulled in, off-loaded and went back to sea without ever getting in the narrow streets or the city traffic.

Now, this is a controversial matter in the State of Washington, but on a long-range basis, we felt the two things, the 125,000-ton limitation and the Coastal Zone Management Act specified that we must be at Port Angeles and we didn't feel that we could operate Cherry Point on a long-term basis.

Senator MELCHER. Then your selection of Port Angeles was specifically for environmental reasons, coupled with economic reasons?

Mr. CURRAN. And the law.

Senator MELCHER. All right.

So you followed advice of environmental groups in the State of Washington to go to Port Angeles for this.

Mr. CURRAN. That is right.

Senator MELCHER. For economic reasons you want to avoid the limitation on tanker size, because if you did not avoid that it would mean higher tariffs to be projected for the consumers to pay.

Mr. CURRAN. That is right.

Senator MELCHER. Also in selecting routes for your right-of-way, at one point you became aware of objections from people in Seattle to construction of a pipeline through the Seattle watershed which is not filtered. What happened to that proposal or that objection, I guess I should say?

Mr. CURRAN. Really, Senator, practically every watershed in the United States is traversed by a pipeline. I don't care whether it is the

Hudson River or Mississippi or Columbia. But in order to get around this, we rerouted the pipeline in the State of Washington, so it does not run through the watershed.

Senator MELCHER. It is outside the watershed. There is no further concern in the Seattle area on that point then?

Mr. CURRAN. Not on that point.

Senator MELCHER. What about railroad rights-of-way? Are you going to use right-of-way for any of your construction, or for any of your rights-of-way for the construction of the pipeline?

Mr. CURRAN. About 10 percent of the system will be on railroad rights-of-way, as presently planned.

Now, keep in mind that the cost of pipe, not counting construction cost, will be from \$50 to \$60 a foot for the pipe diameters we plan to use. A railroad is restricted to a gentle grade that a locomotive can pull. If you stayed on the right-of-way all the way, the length of the pipeline might increase by some 20 or 25 percent, because a railroad by its very nature is restricted to grades.

We have tried to follow the utility corridor concept in the right-of-way of this whole system.

We have tried to stay on powerline right-of-way, a good part of our system, in the State of Washington, follows the Bonneville powerline in certain areas.

In certain areas, we follow the railroad right-of-way.

We have tried to stay with this corridor concept from Spokane to Billings, Mont., we basically follow the Yellowstone Pipeline right-of-way.

Senator MELCHER. Then there is some reason to believe to the extent those existing corridors are already there and have had some environmental concerns, that there could be an easier path to clear the way for the environmental impact statement? It seems to me, it would be advantageous, to the extent you follow existing corridors.

Mr. CURRAN. Yes. But any environmentalist really likes to start from a zero base, it seems to me.

Senator MELCHER. I don't think we want to, in this committee or in Congress itself, to give the Department of Interior an impossible task to accomplish in the time frame set in law, but we will have to review their objections to the time frame.

But it is helpful to know what portions of the right-of-way are already following existing corridors, where there is some answer to environmental problems that might be posed.

So, if it is not in your testimony, perhaps you can provide us with that.

Mr. CURRAN. Yes. We have the footage that we follow, railroad, powerlines and pipeline right-of-way.

Mr. BUTLER. That has all been made available.

Senator MELCHER. It has all been made available.

Thank you very much.

Mr. CURRAN. Thank you.

I have here what I would like to make part of the record the letter from Amoco to FEA, which discusses Amoco's tariff and supply-demand projections and should be part of the record.

Senator MELCHER. Yes. We appreciate that being made part of the record.

[The statement and letter referred to follow:]

STATEMENT OF D. MICHAEL CURRAN, PRESIDENT AND COFOUNDER, NORTHERN TIER PIPELINE CO.

Mr. Chairman, Members of the Committee, I am D. Michael Curran, President and Co-founder of the Northern Tier Pipeline Company. I am accompanied today by Mr. Vincent E. Butler, Director and Co-founder of the Company. Mr. Butler is also President of Butler Associates, Inc., a highly regarded and experienced pipeline engineering and design firm located in Tulsa, Okla.

I appreciate the Committee's invitation to participate in this important hearing and to present testimony on S. 1868, the "National Crude Oil Supply and Transportation Act of 1977." Today's hearing and the legislation pending before this Committee provide needed focus on an urgent energy transportation problem facing the Northern Tier States, the West Coast and, indeed, the Nation as a whole. This Committee is to be congratulated for the action it has taken to forthrightly address these problems and to consider whether new authority is needed to expedite delivery of North Slope crude oil, which is surplus to the needs of West Coast markets, to the areas of greatest need in the Northern Tier States and the major refinery centers in the Midwest.

Mr. Chairman, prior to addressing the provisions of S. 1868 and Amendment No. 842 to S. 1868, introduced on September 9, 1977, I would like to provide the Committee with a brief discussion of the critical problems addressed in S. 1868; a description of the Northern Tier project and alternative proposals; a review of the status of the Northern Tier project; and a discussion of the regional and national benefits associated with construction and operation of the project.

1. THE NATION'S CRUDE OIL SUPPLY PROBLEM

There are basically two major crude oil supply problems facing the country. The first is a developing crude oil surplus on the West Coast. The second is a growing crude oil shortage in the Northern Tier and upper Midwest States.

*a. West coast surplus*

The first problem involves the transportation of Alaskan North Slope crude oil to the Lower 48 states. With the recent startup of Alyeska Pipeline, the projected surplus of crude oil on the West Coast is becoming a reality. The Federal Energy Agency (FEA) estimates that refiners on the West Coast are now capable of processing approximately 700,000 to 800,000 barrels per day (BPD) of the high sulfur North Slope crude oil. By the spring of 1978, the Alyeska Pipeline will reach a throughput of 1.2 million BPD or 400,000 to 500,000 BPD in excess of West Coast refining capacity. The probable increase of North Slope production to 1.6 million BPD in the early 1980's along with the potential of Gulf of Alaska and offshore California production will further aggravate this crude oil surplus on the West Coast.

Since the President has ruled out exchanges of this surplus with Japan, the only "short-term" solution for dealing with this problem is to trans-ship the surplus oil in small tankers through the Panama Canal to Gulf Coast ports. This is necessary because there are no existing crude oil pipelines from the West Coast to the inland states. It also poses some serious problems. At present, the Gulf coast pipeline systems are operating at or near capacity. Further, dock space for tankers in the Gulf is very tight. The introduction of Alaska crude oil in the Gulf Coast systems will require extensive modifications and high operating costs to move Alaska oil to refining centers in the upper Midwest.

The FEA estimates the cost of shipping the oil to Gulf Coast ports by tanker will be \$2.00 per barrel more than tanker shipments to the West Coast. This added transportation cost will, of course, be borne by the U.S. consumer.

*b. Northern Tier-Upper Midwest shortage*

This short-term and costly solution of tanker shipments to the Gulf Coast does nothing to alleviate the second major problem of critical crude oil shortages in the Northern Tier and upper Midwest states. These shortages have been brought about by drastic curtailments in Canadian crude oil exports to U.S. refineries. In the past, refineries in the Northern Tier states have been predominantly supplied by Canadian exports which reached a peak of approximately one

million BPD in 1973. In November, 1975, Canada announced a policy of stepped reductions of exports to the U.S. each year with complete elimination scheduled for 1982. This means that refineries in the Northern states and cities between Billings, Mont., and Buffalo, N.Y., will have to look elsewhere for their crude oil supply. As an example, Texaco recently announced it is going out of the gasoline business in Montana, northern Idaho, eastern Washington and western North Dakota because of the uncertainty of crude oil supply to the Billings area and shortages of Canadian crude oil. Announced curtailments of Canadian natural gas exports to the U.S. will continue to increase the demand for fuel oil, further accentuating the crude oil supply problem in the Northern Tier States.

The proposed Northern Tier Pipeline would solve both these major problems of a crude oil surplus on the West Coast and a crude oil short-fall in the Northern Tier and upper Midwest States. In addition, the project would diversify the Nation's crude oil supply system by providing an embargo proof pipeline for supplying the inland United States from the West Coast; would do so at the lowest cost to consumers in the Northern Tier and upper Midwest States as compared with any other alternative; and would provide major benefits to the local and the national economy.

## 2. DESCRIPTION OF THE PROJECT

It has been evident for some time that the most economic long-term solution to the crude oil supply problems discussed above is the construction of one or more West Coast to Midwest pipelines. President Carter indicated in his National Energy Plan of April 20, 1977, that the construction of one or more west-to-east overland distribution pipelines should be a matter of high national priority.

In November, 1975, seven independent companies<sup>1</sup> experienced in the oil and gas transportation industries recognized this need for a crude oil pipeline from the West Coast to supply refineries in the Northern Tier and upper Midwest States and formed the Northern Tier Pipeline Co. Appendix A provides more information on the founders. They are experienced and knowledgeable of the industry and are technically and financially responsible, having a combined net worth between 2.0 and 2.5 billion dollars.

The Northern Tier Pipeline Co. proposes the construction of a common-carrier 42 and 10-inch diameter crude oil pipeline approximately 1,550 miles in length from Port Angeles, Wash., to Clearbrook, Minn., passing through the States of Washington, Idaho, Montana, North Dakota and Minnesota (as shown generally on Exhibit 1). The pipeline will be supplied by tankers using a deepwater port facility capable of accommodating tankers up to 300,000 dead weight tons (dwt) which Northern Tier Pipeline Co. proposes to construct at Port Angeles, Wash., which is the closest U.S. port to Alaska and the Near and Middle East oil fields of Indonesia and the Persian or Arabian Gulf (Exhibit 2 attached shows the distances between various U.S. and Canadian ports and crude oil exporting countries).

The port facility will receive crude oil from Alaskan and foreign sources; the pipeline will have an ultimate capacity of 933,000 barrels per day and will have access to existing crude oil pipelines (shown on Exhibit 1) serving refineries in the Rocky Mountain, upper Midwest and Eastern United States. Exhibit 3 is a fact sheet providing a more detailed description of the system.

## 3. OTHER PROPOSED SYSTEMS

### *a. Canadian systems*

Two other pipeline systems have been proposed to serve the Northern Tier States, the Kitimat system, and the Trans-Mountain reversal (shown on Exhibit 4). These two proposals have the disadvantage of being under foreign jurisdiction (Canada) and have been developed to give the Canadian consumer the advantages of scale given by large volume movements to the United States. Without a U.S. load these systems would not be economically feasible.

<sup>1</sup> Butler Associates, Inc., Tulsa, Okla.; Curran Oil Co., Great Falls, Mont.; Glacier Park Co., a subsidiary of Burlington Northern Inc., St. Paul, Minn.; Mapco, Inc., Tulsa, Okla.; Milwaukee Land Co., a subsidiary of Chicago, Milwaukee, St. Paul and Pacific Railroad Co., Chicago, Ill.; Patrick J. McDonough, Billings, Mont.; and Western Crude Oil, Inc., Denver, Colo.



Further, the construction of pipeline systems in Canada to serve U.S. markets do not benefit U.S. labor and manufacturing, nor do they benefit the tax base of any of the Northern Tier States. In fact, use of these systems creates a drain on the U.S. balance of payments as tariffs would be paid to Canadian companies.

There is no reason why Eastern Canada cannot be given the same benefits of scale by a pipeline within the United States. The all-American Northern Tier Pipeline can deliver crude oil to the Lakehead Pipeline at Clearbrook, Minn. for delivery, via Lakehead and Interprovincial, as far east as Montreal. In effect we can control our supply line and at the same time deliver to our Canadian friends without being subject to their jurisdiction, as we would be in the case of Kitimat and Trans-Mountain. We, of Northern Tier Pipeline are not anti-Canadian, but we are pro-Americans.

#### *b. Sohio system*

The Sohio project that has been proposed between Long Beach, Calif., and Midland, Tex., does not conflict with the Northern Tier Pipeline because it is aimed mainly at the Gulf Coast refiners. Further, the Sohio project will not provide crude oil to the Northern Tier States because of no existing physical connections. Economic constraints limit delivery to the upper Midwest. Although comments have been made that it could, or would, tie into existing pipelines for northward delivery, we refer you to the testimony given by Lawrason Thomas before the FEA hearings dated May 27, 1977. Mr. Thomas' testimony is that there is little, if any, surplus capacity in these pipelines. It is, therefore, logical that a Sohio system pointed to the Gulf Coast, and a Northern Tier system covering the northern and midwestern states would furnish embargo proof systems to the Nation. The notion that these are competing systems should be laid to rest.

### 4. PROJECT STATUS

#### *a. Federal*

The preliminary engineering design and construction cost estimate for the project were completed in June, 1976 and revised and updated in March, 1977.

Application was made on April 18, 1977, to the Bureau of Land Management (BLM) for right-of-way across federal lands. Approximately 180 miles of the 1,550 mile pipeline route will cross lands under Federal jurisdiction.

The Bureau of Land Management has been designated lead agency for preparation of the environmental impact statement (EIS) for the project. The schedule and plan for the preparation of the EIS has been completed by BLM along with a budget estimate of \$2.5 million for its completion. The schedule developed by BLM calls for commencement of work in November, 1977, with completion of the final environmental statement estimated for April, 1979. Under this schedule completion of the system could not occur before late 1981.

Federal agencies with permit authority may commence issuing the necessary permits thirty days after the environmental statement has been filed with the Council on Environmental Quality. Construction of the project can be completed in approximately 20-22 months from receipt of all required permits.

#### *b. State*

Because the location of a port facility is critical to the Northern Tier Pipeline System, permit applications and environmental studies were initiated in the State of Washington during July, 1976. Initial public hearings relating to the project were held in the State of Washington during September and October, 1976. The environmental assessment for the State of Washington was completed and submitted in November, 1976, to the Energy Siting Council which acts as the lead agency for the site certification of energy facilities.

Remaining actions in Washington include completion of an environmental impact statement (administered by the Siting Council) and completion of a second round of public hearings. Recommendations are then made by the Energy Siting Council to the Governor who makes the final decision on site certification.

A series of meetings and briefings were conducted by Northern Tier Pipeline Co. during June and July, 1977, with the appropriate officials in Idaho, Montana, North Dakota and Minnesota. These meetings were held to confirm the necessary steps to be taken by Northern Tier Pipeline Co. for initiating the permitting process in each of these states. Montana and Minnesota have statutes requiring environmental impact statements, and North Dakota has detailed procedures for

siting of energy facilities. State permitting procedures in all five States can be completed within the time frame established for completion of the permitting process by the Federal agencies.

### *c. Refiner-shipper support*

The participants in the Northern Tier Pipeline Project have and continue to seek refiner-shipper participation in the project. There is active interest in the project on the part of many refiner-shippers in the Northern Tier and upper Midwest States. Amoco Oil Co., the largest refiner-marketer in 11 States of the upper Midwest region, has conducted intensive studies of the project and compared Northern Tier to all other alternative systems or proposals for moving new volumes of crude oil to their market area. Their studies have concluded that: First, Northern Tier has the lowest transportation costs of all systems considered; and second, Northern Tier meets the immediate needs of the Northern Tier States as well as the projected growing crude oil short-fall in the States of the upper Midwest.

Based on these studies Amoco joined with the Northern Tier Pipeline Co. to undertake a joint venture partnership study of the project. This joint venture study entailed a major financial contribution by Amoco to the project.

Amoco, as their testimony submitted for this hearing indicates, continues to support the Northern Tier Pipeline Project as the most efficient and feasible proposal for the movement of "both foreign and surplus Alaskan crude oil at the lowest cost of all transportation options to Midwestern and Northern Tier refiners." Unfortunately, at present, Amoco has reluctantly terminated further financial contribution to the project. Their testimony to the Committee expresses their reasons in some detail. In summary, the reasons are twofold: First, the capital cost of the project of 1.2 billion dollars is too large for any single company to underwrite. Second, major uncertainties associated with Government policy—tariff structure, crude oil pricing, pipeline divestiture, limitations on oil industry joint ventures, delays in issuance of local, State and Federal permits, and widely variable Midwest oil demand projections—do not provide a basis for firm and prudent corporate planning.

Mr. Chairman, Amoco and other refiners in the Northern Tier states are presented with an anomalous position. They apparently are not going to participate in the construction of a large, modern, efficient crude oil pipeline system that will provide major savings in transportation costs to their consumers because of uncertainties in state and federal policy. Instead, Amoco and other Northern Tier and Midwest refiners are exploring investments which are less capital intensive; projects which are far less economic and efficient; projects which have higher transportation costs and higher consumer costs to move a relatively few thousand barrels of crude oil over existing systems to meet projected demand only over the next year, 18 months, or two years.

The anomaly is this. Each time an old pipeline system is looped or another pump is added, the economics of building a new, modern, efficient system is eroded. The net effect is that if this is permitted to happen, the American consumer will be called upon to pay an extremely high transportation charge to move an insecure and a very limited supply of crude oil from the Gulf Coast to the upper Midwest. This approach entails serious risks for the security of the country, the stability of the economy, and the quality of our environment.

These are the issues which face the Congress and the Executive Branch. These are the issues which are sought to be addressed in S. 1868.

We believe they deserve and we hope they will receive serious consideration by the Congress and by the Administration.

## 5. BENEFITS ASSOCIATED WITH THE NORTHERN TIER PROJECT

### *a. Consumer benefits*

The primary benefit of the Northern Tier Pipeline System is to the consumer. It will provide the *lowest* crude oil transportation costs to refineries in the Northern Tier and upper Midwest states, thus assuring the most economical supply of petroleum products essential to the economy of these states.

Because Port Angeles is the closest U.S. port to all the world crude oil producing areas and can accommodate tankers in excess of 300,000 dwt, tanker rates will be lower than into other U.S. ports.

Estimating pipeline tariffs over Northern Tier Pipeline and connecting systems will be less than competing proposals because of a more direct route into the

Northern Tier and upper Midwest states the economies of scale of a large diameter system. Exhibits 5 and 6 show the estimated 1985 transportation costs from Valdez and the Persian Gulf into 13 refining centers in the Northern Tier and upper Midwest for the proposed Northern Tier Pipeline and four other systems. With one exception (Persian Gulf crude moving to Wood River, Illinois) the Northern Tier Pipeline offers the lowest transportation costs into all 13 refining centers.

*b. Employment and economic benefits*

The construction of the Northern Tier Pipeline System will provide employment and other economic benefits to many sectors of the country. For example, approximately 720,000 tons of steel will be required to manufacture the pipe and storage tanks for the system. The manufacture of this amount of steel pipe and tank steel will generate the equivalent of approximately 4,500 jobs for one year in the steel industry. The manufacture of motors, transformers and other electrical equipment, pumps, valves, fittings and other material will provide substantial economic benefits to those supplying industries.

During the construction phase of the project, an average of 4,200 construction personnel will be employed over the eight to twelve month pipeline construction period and 270 other construction personnel will be required for approximately 18 months to construct the marine terminal and pump stations. Approximately \$130 million will be paid out in construction wages over the two-year construction phase. Sales and use taxes to be paid to states during the construction phase are estimated to be in excess of \$23 million.

The economic benefits during operation will be significant with 130 personnel employed with wages in excess of \$2 million annually. Property tax revenues generated by the system are estimate to be \$16 million annually.

It is especially significant to note that in the case of the proposed Northern Tier Pipeline, all the employment and other economic benefits will be realized by states and counties and especially the people of the United States. This is not the case, however, with the proposed Kitimat or Trans-Mountain Reversal projects.

*c. National defense and strategic storage*

The development of an embargo proof crude oil supply system completely under U.S. control from the West Coast to the Northern Tier, upper Midwest and eastern markets will be a definite national defense asset. In the event of interruption of flow from the pipelines in the southwest U.S., the Northern Tier Pipeline will deliver oil from Alaskan or foreign sources. It provides our national defense strategy with an option other than complete dependence upon the concentration of pipelines which extend inland from the Gulf Coast.

In addition, the pipeline route crosses thick salt beds in the Williston Basin in Montana and North Dakota thus offering opportunities to provide strategic storage at locations other than the Gulf Coast. Strategic storage locations in Montana and North Dakota would provide uninterrupted oil delivery to the Northern Tier states during an embargo.

## 6. PENDING LEGISLATION

Mr. Chairman, to date the policy of the Federal Government with respect to the West Coast crude oil surplus and the allocation of this surplus to other regions of the country has been to rely upon the best efforts of the Nation's crude oil transportation industry. Specifically, federal policy with respect to alternative transportation system proposals has been that these proposals should proceed in accordance with existing law and that they do not require special legislative Administration treatment.

Authorization and construction of the Northern Tier crude oil pipeline system does not necessarily require, nor is it dependent upon passage of new legislation. Adequate legal authority is available at the Federal and State levels to grant all required permits and authorizations for construction of the system. The problems the Northern Tier pipeline system has experienced to date have involved delay and indecision rather than questions of legal authority. They have involved uncertainty created by State and Federal policy.

The purpose of S. 1868, as I understand the bill, is to get the Federal government involved in finding answers to the problems facing the Nation; to reduce uncertainty; and to expedite Federal and State decisions on the authorization

and completion of one or more West Coast to Midwest crude oil transportation systems.

The Northern Tier Pipeline Company endorses S. 1868. We believe it is the right action at the right time. We would be glad to furnish the Committee detailed comments on the bill.

#### 7. SUMMARY

The following listing summarizes the advantages of the Northern Tier Pipeline System over other alternative proposals:

Would provide the lowest transportation costs for movement of Alaskan or foreign crude oil from West Coast to Northern Tier and upper Midwest refineries.

Port Angeles is the closest U.S. port to all major world crude oil producing areas and is the only U.S. port which can accommodate tankers in excess of 300,000 dead weight tons.

U.S. industry would be stimulated by requirements for steel pipe, tanks, valves, pumps, motors, and other equipment.

Employment (during construction and operations) and tax benefits would be realized totally by the U.S.

Incentives for industrial development would be provided in all areas supplied by the pipeline.

Would not adversely affect the U.S. balance of payments.

Would provide a pipeline completely under U.S. control with embargo-proof characteristics from the West Coast to inland markets—a definite national defense asset.

Would provide a sound economic long-term solution to the crude oil supply problems of the Northern Tier and upper Midwest states.

Mr. Chairman, I want to express my deep and sincere appreciation to you, to the Members and to the Chairman of the Full Committee for focusing Congressional attention on the critical crude oil supply problems facing the Nation.

If the Committee needs or requires further information or testimony, we will cooperate in any way that we can.

Thank you.

#### APPENDIX A

As a matter of information and to give the Committee a brief background on the expertise of the group in the pipeline and related energy and transportation industries, we offer the following:

a. *Curran Oil Company*.—The owners of this company have been successful pipe line contractors for the last twenty years.

b. *Butler Associates, Inc.*—This company is an acknowledged expert in the design and construction management of pipe line transportation systems. It operates both on a domestic and international scale.

c. *MAPCO, Inc.*—Owns and operates the largest liquified petroleum gas and ammonia pipe line systems in the United States. It is also a producer of oil, gas and coal.

d. *Western Crude Oil, Inc.*—This company is a worldwide purchaser, trader and transporter of crude oil and petroleum products; owner/operator of approximately 2,000 miles of crude oil pipe lines in the U.S. It also is a partial owner of other common carrier crude oil systems in the U.S., namely Texoma and Butte Pipelines.

e. *Glacier Park Company (Burlington Northern Railroad)*.—The Burlington Northern, other than being one of the major railroads in the Nation, also owns and operates pipe lines and is a producer of oil and gas.

f. *The Milwaukee Land Company (Milwaukee Railroad)*.—The Milwaukee, being a transportation company, is interested in participating in the project as an investment and to the extent that its right of way can be used for the construction of the pipe line.

g. *Patrick J. McDonough*.—Mr. McDonough is a private investor.



## EXHIBIT 2

## TANKER DISTANCES FROM WORLD CRUDE OIL PRODUCING AREAS TO UNITED STATES AND CANADIAN PORTS

Port	Distances in nautical miles from—		
	Valdez, Alaska	Persian Gulf	Indonesia
Port Angeles, Wash.....	1,169	10,703	7,202
Kitimat, British Columbia.....	861	9,514	6,013
Long Beach, Calif.....	2,042	11,568	8,067
Galveston, Tex.....	<sup>1</sup> 6,449	12,448	13,247
Philadelphia, Pa.....	<sup>1</sup> 6,902	11,854	12,653
Portland, Maine.....	<sup>1</sup> 7,154	11,724	12,523

<sup>1</sup> Through Panama Canal.

## EXHIBIT 3

## NORTHERN TIER PIPELINE SYSTEM—PROJECT FACT SHEET

## I. Summary of Installations

## A. Port Angeles Marine Terminal

## 1. Unloading Facilities

- (a) Number of tanker berths—two with provision for a third.
- (b) Size tankers that can be accommodated—to 300,000 dwt.
- (c) Water depth at the berths—100 feet.
- (d) Maximum draft of tanker fully loaded—82 feet.
- (e) Maximum unloading rate—100,000 barrels per hour with booster station.
- (f) Number of submarine unloading lines—two.
- (g) Diameter of submarine unloading lines—52-inch.
- (h) Booster pumps required—one on each unloading line.
- (i) Booster pump horsepower (installed)—10,000 HP total.

## 2. Onshore Facilities

- (a) Number of storage tanks (initial)—12, floating roof type.
- (b) Capacity per storage tank—500,000 barrels.
- (c) Total storage capacity (initial)—6 million barrels.
- (d) Total storage capacity (expanded)—9.5 million barrels. Acreage available for expansion to 13.0 million barrels.

## B. Pipeline and Pump Station Facilities

## 1. Pipeline Facilities

- (a) Length of pipeline (design length)—1,541 miles.
- (b) Total miles: 42-inch pipe—860.
- (c) Total miles: 40-inch pipe—681.

## 2. Design Capacity

- (a) Initial design capacity—700,000 BPD.
- (b) Ultimate design capacity—933,000 BPD; 1,283,000 BPD through the initial 172 mile segment.

## 3. Pumping Station Facilities

- (a) Number of pumping stations (initial)—16.
- (b) Number of pumping stations (expanded)—18.
- (c) Installed horsepower (initial)—174,100.
- (d) Installed horsepower (expanded)—308,100.
- (e) Type of prime movers—electric motors.

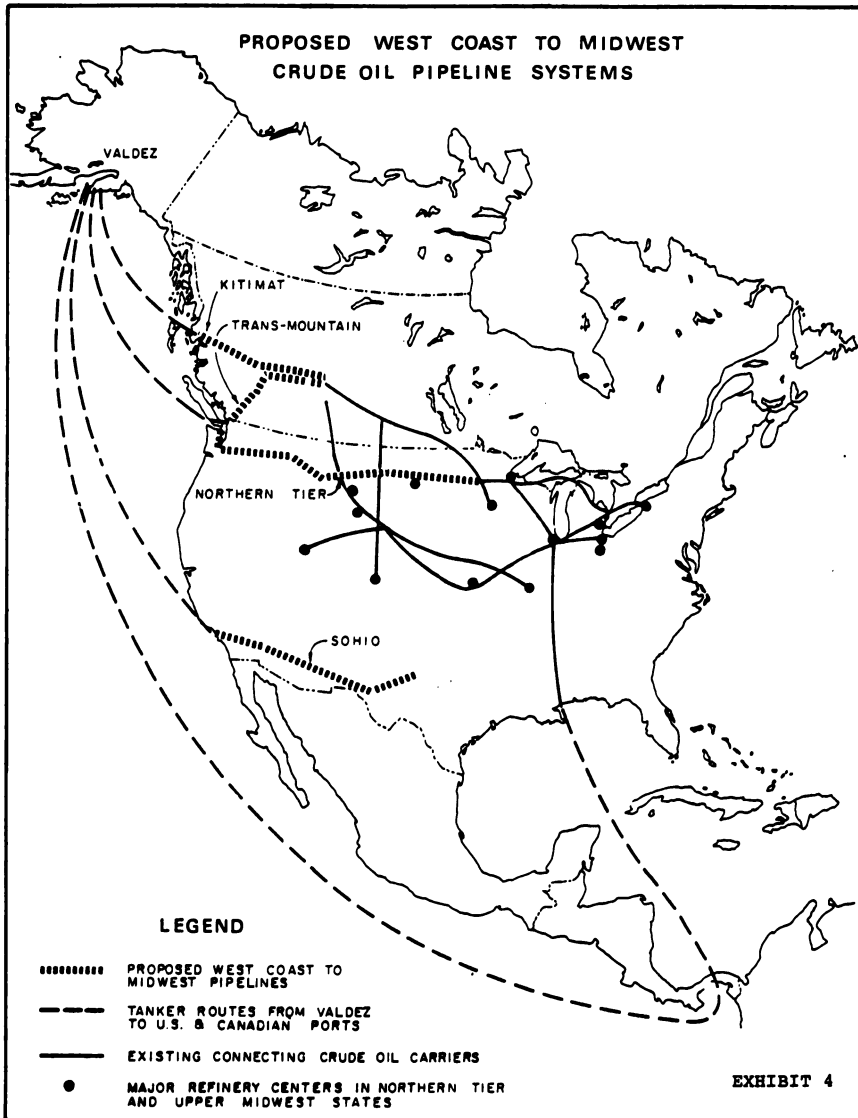
## 4. Design Crude Oil—Alaskan.

## 5. Location of Delivery Facilities—Clearbrook, Minnesota; Glacier and Western Crude Oil Pipelines in Montana; and Amoco Pipeline in North Dakota.

## 6. Line Fill Requirements

- (a) Amount of line fill required for marine terminal—204,000 barrels.
- (b) Amount of line fill required for pipeline facilities—12,883,000 barrels.

- (c) Total line fill requirements—13,087,000 barrels.
- II. Summary of Estimated Construction Costs and Operating Expenses (All based on January, 1977, Costs)
- A. Estimated Cost of Facilities (excluding all financing charges).
    - 1. Port Angeles Terminal (initial)—\$99,361,000.
    - 2. Pipeline and Pump Station (initial)—\$849,781,000.
    - 3. Total estimated initial cost—\$949,142,000.
    - 4. Cost of terminal expansion—\$19,737,000.
    - 5. Cost of pipeline expansion—\$16,046,000.
    - 6. Total estimated cost including expansion—\$984,925,000.
  - B. Estimated Annual Operating Expenses (for a system throughput of 540,000 and 933,000 barrels per day, respectively)
    - 1. Port Angeles Marine Terminal—\$2,854,000; \$3,579,000.
    - 2. Pipeline and Station Facilities—\$26,545,000; \$44,343,000.
    - 3. Total of All Facilities—\$29,399,000; \$47,922,000.





## EXHIBIT 5

CRUDE OIL TRANSPORTATION COSTS  
FROM  
VALDEZ, ALASKA, TO REFINING CENTERS - 1985  
Dollars Per Barrel

Refining Center	Northern Tier				Trans-Mountain Reversal				Pipeline System				SO-HIO				CAPLINE			
	Tanker	Pipeline	Total		Tanker	Pipeline	Total		Tanker	Pipeline	Total		Tanker	Pipeline	Total		Tanker	Pipeline	Total	
Billings	0.65	0.71	1.36		0.65	1.01(2)	2.26		0.54	1.63(2)	2.17		--	NER	--		--	NER	--	
Mandan	0.65	0.80	1.45		0.65	1.68(2)	2.23		0.54	1.60(2)	2.14		--	NER	--		--	NER	--	
Clearbrook (1)	0.65	0.90	1.55		0.65	1.12	1.77		0.54	1.14	1.68		--	NER	--		--	NER	--	
Twin Cities	0.65	1.07	1.72		0.65	1.29	1.94		0.54	1.31	1.85		0.94	2.06(4)(5)	3.03		3.80	1.05(5)(6)	4.83	
Superior/Wrenshall	0.65	1.03	1.68		0.65	1.18	1.83		0.54	1.20	1.74		--	NER(3)	--		--	NER(3)	--	
Chicago	0.65	1.13	1.78		0.65	1.31	1.96		0.54	1.33	1.87		0.94	1.95(4)	2.83		3.80	0.75(5)	4.53	
Toledo	0.65	1.31	1.96		0.65	1.49	2.14		0.54	1.51	2.05		0.94	1.95(4)	2.83		3.80	0.92(5)	4.73	
Detroit	0.65	1.41	2.06		0.65	1.52	2.17		0.54	1.54	2.08		0.94	2.02(4)	2.95		3.80	1.05(5)	4.85	
Buffalo	0.65	1.32	1.97		0.65	1.47	2.12		0.54	1.49	2.03		0.94	1.95(4)	2.89		3.80	0.92(5)	4.70	
Salt Lake	0.65	1.36	2.01		0.65	2.06	2.71		0.54	2.08	2.62		--	NER	--		--	NER	--	
Casper	0.65	1.11	1.76		0.65	2.01(2)	2.66		0.54	2.03(2)	2.57		--	NER	--		--	NER	--	
Denver	0.65	1.14	1.79		0.65	1.80	2.45		0.54	1.82	2.36		--	NER	--		--	NER	--	
Kansas City	0.65	1.41	2.06		0.65	1.92	2.57		0.54	1.94	2.48		0.94	1.34	2.28		--	NER	--	
St. Louis (Wood River)	0.65	1.36	2.01		0.65	2.05	2.70		0.54	2.07	2.61		0.94	1.95(4)	2.83		3.80	0.92(5)	4.41	

X:XX Least cost alternative

NER - No existing or proposed route

(1) Delivery point

(2) Construction of connecting pipelines is required to enable deliveries to these points

(3) Limited quantities of crude oil could be transported by petroleum products pipeline

(4) Based on new pipeline Cushing to Chicago

(5) Based on new pipeline from Wood River to Twin Cities

(6) Based on looping Capline and Chicago.

JRB:rcv:187

August 5, 1977

CRUDE OIL TRANSPORTATION COSTS  
FROM  
PERSIAN GULF TO REFINING CENTERS - 1965  
Dollars Per Barrel

Refining Center	Northern Tier		Trans-Mountain		Pipeline System		SO-HO		CAPLINE	
	Tanker	Pipeline Total	Tanker	Pipeline Total	Tanker	Pipeline Total	Tanker	Pipeline Total	Tanker	Pipeline Total
Billings	1.80	0.71	2.51	2.09	1.81 <sup>(2)</sup>	3.70	1.85	1.63 <sup>(2)</sup>	---	NER
Minard	1.80	0.80	2.60	2.09	1.55 <sup>(2)</sup>	3.67	1.85	1.60 <sup>(2)</sup>	---	NER
Clearbrook <sup>(1)</sup>	1.80	0.90	2.70	2.09	1.12	3.21	1.85	1.14	---	NER
Twin Cities	1.80	1.07	2.87	2.09	1.29	3.38	1.85	1.31	2.10	2.06 <sup>(4)(5)</sup> 3.41
Superior/Wrenshall	1.80	1.03	2.83	2.09	1.18	3.27	1.85	1.20	---	NER <sup>(3)</sup>
Chicago	1.80	1.13	2.93	2.09	1.31	3.40	1.85	1.33	2.10	1.66 <sup>(4)</sup> 3.89
Toledo	1.80	1.31	3.11	2.09	1.49	3.58	1.85	1.51	2.10	1.85 <sup>(4)</sup> 4.09
Detroit	1.80	1.41	3.21	2.09	1.52	3.61	1.85	1.54	2.10	2.02 <sup>(4)</sup> 4.22
Buffalo	1.80	1.32	3.12	2.09	1.47	3.56	1.85	1.49	2.10	1.95 <sup>(4)</sup> 4.15
Salt Lake	1.80	1.36	3.16	2.09	2.06	4.15	1.85	2.08	---	NER
Casper	1.80	1.11	2.91	2.09	2.01 <sup>(2)</sup>	4.10	1.85	2.03 <sup>(2)</sup>	---	NER
Denver	1.80	1.14	2.94	2.09	1.80	3.89	1.85	1.82	---	NER
Kansas City	1.80	1.41	3.21	2.09	1.92	4.01	1.85	1.94	2.10	1.34 3.54
St. Louis (Wood River)	1.80	1.36	3.16	2.09	2.05	4.14	1.85	2.07	2.10	1.66 <sup>(4)</sup> 3.89
										0.89 <sup>(6)</sup> 2.99

X, XX Least cost alternative

NER - No existing or proposed route

(1) Delivery point

(2) Construction of connecting pipelines is required to enable deliveries to these points

(3) Limited quantities of crude oil could be transported by petroleum products pipeline

(4) Based on new pipeline routing to Chicago

(5) Based on new pipeline routing from River to Twin Cities

(6) Based on looping Capline and Chicago and construction of LOOP.

JRS:mc/197

August 5, 1977

AMOCO OIL Co.,  
Chicago, Ill., April 22, 1977.

HON. JOHN F. O'LEARY,  
Administrator, Federal Energy Administration,  
Washington, D.C.

DEAR SIR: As you may know, Amoco Oil Company is the Midwest's largest refiner and marketer. As such, Amoco is very concerned about the oil supply available to the Midwest and the shortfall problems that we foresee as a result of the curtailment of Canadian Oil exports to the U.S. and the expected decline in the natural gas supply for this area. Amoco has carefully followed the development of the various options for dealing with this impending shortfall and would like to apprise you of our conclusions.

Amoco's findings are summarized in the attached two documents, both of which were reviewed with members of your staff on April 5, 1977. The first attachment briefly summarizes Amoco's estimate of the shortfall in the Midwest and the related PAD District IV. Absent new pipelines or expansion of existing systems serving this area, we estimate shortfalls of 0.9 and 1.0 million barrels per day in 1980 and 1985, respectively. Although these represent our best estimate, they are subject to large uncertainties because oil, as the major swing fuel, largely fills the gap between total energy demand and supply from all other sources. Thus, the demand for oil tends to reflect changes in availability of all other fuels as well as changes in total demand.

The second attachment summarizes Amoco's analysis of the options available for solving the Midwest/PAD District IV shortfall problem. The fundamental thrust of this study was to insure sufficient crude oil supply to permit the refineries to run at capacity. Amoco concludes a northern tier pipeline superior to the other options for dealing with the forecast shortfall. Such a line provides the lowest cost method for delivering both Alaskan and Persian Gulf crudes to these refineries. We think the lower transportation costs and resulting larger volume potential available to a northern tier pipeline outweigh the large scope and hence higher investment associated with such a line. The lower delivered crude costs that would result would not only benefit the consumers in this area, but would also allow the area's refineries and energy dependent industries to maintain their competitive viability.

We enjoyed the opportunity to meet with your staff and to share our thoughts on this critical supply problem facing the Midwest. Please do not hesitate to call me or my staff if you or members of your staff have any questions concerning these attachments or our presentation.

Very truly yours,

L. D. THOMAS,  
Vice President.

Attachments.

#### SUPPLYING THE OIL NEEDS OF THE MIDWEST/PAD IV AREA

TABLE 1.—INDUSTRY: MIDWEST SUPPLY BALANCE (CRUDE-PLUS PRODUCTS)

(In million barrels per day)

	1975	1980	1985
Demand.....	4,360	5,500	5,710
Supply, existing pipelines.....	4,760	4,610	4,720
Surplus/shortage.....	400	-890	-990
Unlikely expansions <sup>1</sup> .....		500	500
Minimum shortfall.....		-390	-490

<sup>1</sup> Marginal high cost incremental expansions.

Amoco's demand forecast for the Midwest is given in Table 1. This forecast, which was prepared about a year ago, has demand increasing about 5 percent a year between 1975 and 1980, and then showing little growth thereafter, averaging less than 1 percent a year in the 1980-85 period. The demand in this area for 1976 was up about 6.8 percent from 1975 based on preliminary data. Based

on Amoco's most recent estimate of 1977 demand, the 1980 demand estimate in Table 1 represents only about a 4 percent a year growth from 1977. The reduction in interstate gas availability, the time required for more fuel-efficient cars to become a significant portion of the car population, and the time needed for conservation measures to be put into effect explains the relatively sharp gain for the balance of this decade. Forecast arrival of Alaskan gas in the early 1980's, plus the impact of energy conservation measures, results in the much lower growth rate in the 1980-85 period.

The supply via existing pipelines shown on this tabulation includes only estimated flows on those pipelines from areas with declining crude supplies, rather than the pipeline capacity. Examples are the Interprovincial Pipeline and the pipelines from the Rocky Mountains, which have capacities considerably in excess of the crude available for movement on them. A more thorough discussion of the development of the shortfall is given in the handout Amoco distributed at a meeting with FEA/Interior Department people on April 5. A copy of this handout is attached.

It is important to recognize the large uncertainties surrounding these single point estimates of the shortfall. The shortfall is the result of subtracting two large numbers, supply and demand, each having considerable uncertainty. Even more important than this is a recognition that oil is forecast to be the swing fuel, with its demand determined by the difference between total energy needs and the estimate of the energy to be supplied from other sources, i.e., coal, natural gas, nuclear power, etc. Hence, there is a pyramiding of the uncertainties surrounding each of these estimates in the uncertainty associated with the oil demand estimates. For example, total energy demand in 1985 in this area is about 15 million barrels/day of oil equivalent. If the total energy forecast is off by only 1 percent and all the other components were correctly estimated, the oil shortfall would change by 150 MB/D. It is easy to see from this that the shortfall estimates could have uncertainties of one-half to a million barrels per day.

TABLE 2.—MIDWEST CRUDE PIPELINE CAPACITY

[In million barrels per day]

	Present	Estimated	
		1980	1985
Present pipeline system.....	2, 880	2, 530	2, 570
Probable expansions.....	0	350	350
Total, pipeline capacity.....	2, 880	2, 880	2, 920
Barge, truck, and local.....	250	250	250
Total.....	3, 130	3, 130	3, 170
Shortfall versus refinery capacity.....	-290	-640	-850
After unlikely expansions.....		-410	-620

The basis for developing the capacity of the present pipeline system shown in Table 2 is explained in the attached handout developing the Midwest shortfall. In the tabulation given in Table 2, the supply available, including a probable 350 MB/D expansion of pipeline capacity to the Midwest, is subtracted from estimated future refinery capacity to arrive at the shortfall. Refinery capacity is estimated at 3,770 MB/D in 1980 and 4,020 MB/D in 1985 versus 1975 capacity of 3,330 MB/D. As shown, this results in shortfalls of 640 and 850 MB/D, respectively, for 1980 and 1985. Including additional expansion of the existing pipeline by a further 230 MB/D could reduce these shortfalls to 410 and 620 MB/D, respectively, for 1980 and 1985. We think this latter expansion increment is quite unlikely due to its high cost and resulting poor economics. For example, we understand power cost alone on these increments would exceed the tariffs now charged on these lines. The techniques used to develop the 1980 and 1985 shortfalls seem credible because that same approach indicates a 290 MB/D shortfall currently (late 1976), and this is confirmed by the fact that several major Midwest refineries have been forced to reduce runs below desired levels this past winter because of shortages in crude oil pipeline capacity to their particular refineries.

The map opposite this page shows the major crude and product pipeline systems serving the Midwest that have been reflected in the previous shortfall esti-

mates. Also included are the proposed Kitimat and Northern Tier pipelines. Of interest are the Texoma and Seaway pipelines which recently came on stream. These two lines, which came on stream within the last year and a half, have the potential after machinery additions of moving 1 million barrels/day of crude oil to the Cushing area. As a result, there is the potential for additional pipeline capacity into Oklahoma and southern Kansas, but a shortage of space from there to the Midwest.

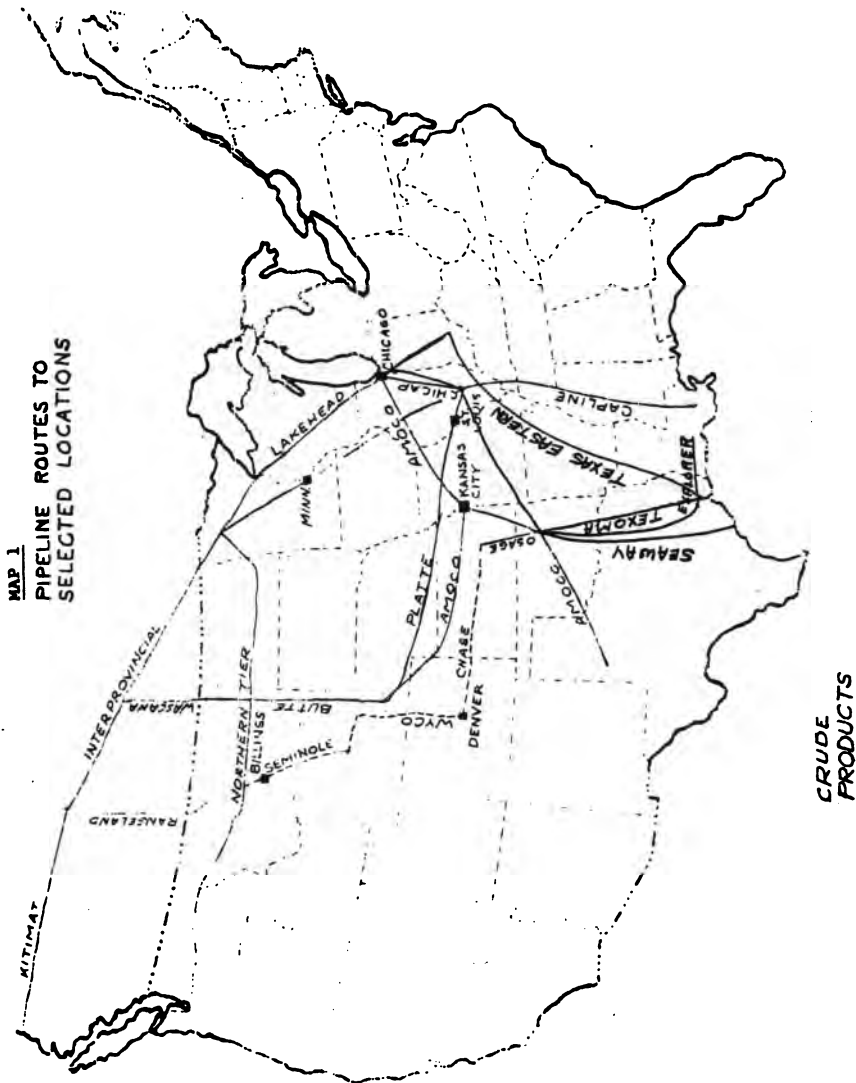


TABLE 3.—CRUDE OIL SHORTFALL  
[In million barrels per day]

	1980	1985
Crude pipeline capacity shortfall.....	640	850
Excess capacity to cover: (Local production shortfalls, short-term refinery peak operations, and spot requirements of specialty crudes).....	170	170
Amoco most probable case.....	810	1,020
Conoco high case <sup>1</sup> .....	1,010	1,220
Conoco low case <sup>1</sup> .....	580	790

<sup>1</sup> Amoco/Conoco preliminary planning staff consensus.

The shortfalls shown at the top of Table 3 are the same as those developed in Table 2, which included 350 MB/D of probable pipeline expansions. We think planning of the required new pipeline capacity to the Midwest should anticipate more than this volume because the industry needs excess capacity to cover the contingencies listed on this slide. Historically, a majority of refineries run crude at levels significantly above name plate rated capacity for short periods to supply short notice, unanticipated seasonal peak demands. Also, additional capacity is needed at certain times to cover such things as large requirements of heavy asphaltic crudes to cover summer paving asphalt requirements. Including a judgmental reflection of 170 MB/D for the total industry to cover these needs, yields Amoco's most probable forecast of crude oil pipeline capacity shortfalls of 810 and 1,020 MB/D in 1980 and 1985, respectively. These shortfalls lie midway between high and low case shortfalls resulting from a consensus of the planning staffs of Amoco and Conoco shown at the bottom of this table.

TABLE 4.—STATUTE MILES TO CHICAGO

Via—	Tanker from—		Number of pipelines	Total from—	
	Middle East	Valdez		Middle East	Valdez
Gulf Coast-Cushing.....	14,340	6,740	1,170	15,510	7,910
Loop-Capline.....	14,340	6,740	980	15,320	7,720
Sohio-Cushing.....	13,080	2,480	2,200	15,280	4,680
Northern Tier.....	12,310	1,310	2,100	14,410	3,410
Kitimat.....	12,160	860	2,300	14,460	3,160

Table 4 gives the tanker and pipeline distances to Chicago from the Middle East and from Valdez via the various pipeline routes now being discussed. Of key importance is the fact that a West Coast terminal at either Kitimat or Port Angeles is over 2,000 miles closer to the Middle East, the location of the major source of future incremental crude supplies, than are terminals located on the Gulf Coast. Not only are these potential West Coast terminals much closer, but they have naturally occurring deep water at the dock side, which will permit discharging the largest supertankers used in oil service. This is not the case on the Gulf Coast. Here it is necessary to lay pipelines, install platforms, and mooring buoys some 20 to 30 miles offshore in order to provide the water depth necessary to receive VLCC tankers routinely used in transporting oil to European and Japanese ports. These vessels offer large cost savings over use of 40-80 MDWT vessels that are capable of being received at existing U.S. Gulf Coast ports.

Table 4 also gives pipeline distances, and in the two right hand columns, the combined pipeline and tanker distance to Chicago from the Middle East and from Valdez. Again, the natural advantage of a northern West Coast terminal stands out. For example, Northern Tier offers a combined savings of nearly 1,000 miles versus the offshore Gulf Coast LOOP/Capline route. Also, the Northern Tier route offers a savings in moving volumes to the Midwest well in excess of 1,000 miles versus delivering North Slope crude to Chicago via a California-to-Texas pipeline and a new line from Cushing, Oklahoma, to Chicago.

TABLE 5.—TRANSPORTATION COSTS TO SELECTED LOCATIONS FROM MIDDLE EAST, 1985

[Dollars per barrel]

	Chicago	St. Louis	Kansas City	Denver
<b>Via Northern Tier:</b>				
Tanker 1.....	1.80	1.80	1.80	1.80
Port Angeles-Glacier/Butte/Clearbrook <sup>2</sup> .....	.90	.64	.64	.51
Clearbrook-Chicago <sup>3</sup> .....	.23			
Glacier-Billings.....				.15
Billings-Denver.....				.77
Butte-Fort Laramie.....		.30	.30	
Fort Laramie-Kansas City/St. Louis.....		.34	.23	
<b>Total.....</b>	<b>2.93</b>	<b>3.08</b>	<b>2.97</b>	<b>3.23</b>
<b>Via Kitimat:</b>				
Tanker 1.....	1.78	1.78	1.78	1.78
Kitimat-Edmonton <sup>2</sup> .....	.79	.79	.79	.79
Edmonton-Chicago/Regina <sup>3</sup> .....	.60	.22	.22	
Edmonton-Billings.....				.70-1.00
Billings-Denver.....				.77
Regina-Fort Laramie.....		.68	.68	
Fort Laramie-Kansas City/St. Louis.....		.34	.23	
<b>Total.....</b>	<b>3.17</b>	<b>3.81</b>	<b>3.70</b>	<b>4.04-4.34</b>
<b>From gulf coast:</b>				
Tanker 1.....	2.10	2.10	2.10	2.10
LOOP/Seadock.....	.33	.33	.32	.32
Capline/Chicap-St. Louis/Chicago.....	.68	.56		
Texoma-Cushing/El Dorado.....			.37	.52
Cushing tankage.....			.05	.05
Cushing-Kansas City.....			.13	
El Dorado-Denver.....				.42
<b>Total.....</b>	<b>3.11</b>	<b>2.99</b>	<b>2.97</b>	<b>3.41</b>

<sup>1</sup> VLCC tanker costs at W. S. 93 (1976 basis).<sup>2</sup> Tariffs as estimated by project sponsor.<sup>3</sup> Escalated 1.6 percent per year from current levels.

Table 5 shows the relative costs associated with the three basic routes for delivering crude oil to the Midwest and Rocky Mountains (Denver), using our understanding of the tariffs estimated by sponsors of each of the Northern lines from the West Coast to California. Other costs on this slide are either published tariffs, or where none were available, a consensus of the likely tariff based on our discussions with other people in the industry. The delivered costs are based on an estimated tanker rate for VLCCs in 1985 of 93 percent of the 1976 Worldscale tanker rates. This forecast was made last year and assumed the current tanker surplus of large vessels would gradually be worked off so that rates would approach normal full cost levels by 1985. This is an area of considerable uncertainty and the year when rates are forecast to return to normal may vary by a number of years, depending on the assumptions made.

The left hand column in Table 5 shows Northern Tier is the lowest cost route to deliver crude to Chicago, 18¢/bbl. less than from the Gulf Coast and 24¢/bbl. less than via the Kitimat route. In the case of deliveries to St. Louis and Kansas City, Northern Tier shows a cost savings in excess of 70¢/bbl. versus Kitimat, and is the same or only slightly more than the Gulf Coast routes. The results are even more striking in the case of deliveries to Denver with Northern Tier showing about \$1/bbl. cost savings versus the Kitimat route. For these latter destinations, Northern Tier offers the opportunity to use the idle capacity in the Amoco and Platte pipeline systems from Wyoming to the Midwest, which are operating at about one-third capacity, with 200-400 MB/D of open capacity. It also would allow the product pipelines from Montana and Wyoming to reverse the 20 percent per year decline in traffic to Denver experienced since the Canadian curtailment of imports.



TABLE 6.—ESTIMATES OF VOLUMES AVAILABLE TO WEST COAST/MIDWEST PIPELINE<sup>1</sup>

	Refining capacity	1985 (thousand barrels per day)	
		Northern tier	Kitimat
Montana/Wyoming/Colorado/Utah.....	570	180	80
Kansas/Nebraska.....	710	150	-----
St. Louis.....	730	-----	-----
North Dakota.....	60	25	-----
Minnesota/Wisconsin.....	300	220	220
Chicago area plus Michigan, northern Ohio, and western Pennsylvania/ New York.....	1,990	340	?
Total.....	4,360	915	300+?

<sup>1</sup> Assumes all present pipelines from gulf coast will continue to be fully used and will be expanded as needed to cover shortfalls south of Kansas City and Chicago.

In Table 6, the Midwest/Rocky Mountain refineries have been divided up into refining centers. The two right hand columns give the volumes of crudes that would likely move to each of these refining centers through the Northern Tier or Kitimat line if they were built. These movements assume that the existing pipelines from the Gulf would remain full and that new supplies of crude to the Rocky Mountain and Midwest refining centers would move via one or the other of the proposed routes. The volumes in each case reflect the relative costs of supplying that center via the proposed route versus some other alternate using transportation costs given in Table 5. The large volumes available to the Northern Tier pipeline are a direct result of the large competitive cost advantage it would enjoy, particularly, versus the Kitimat pipeline. It is this much larger volume potential for the Northern Tier pipeline that Amoco believes far outweighs the large scope and hence higher investment of this proposal versus the others.

We have indicated by a question mark that there may be volumes from the Kitimat pipeline to Chicago and points East even though our cost estimates suggest the crude could be supplied more economically via another route. This is suggested by the fact that, to date, none of the refiners in this area have furnished forecasts of volumes for movement via the Kitimat pipeline and tends to confirm Amoco's assessment that, given freedom of choice, refiners in this area would not choose to use Kitimat. Of course, if Kitimat were the only alternative available for delivering Alaskan crude into this area, some volumes would undoubtedly move into this area. We think it is unlikely, though, that movements approaching 650 MB/D are economic via a 30" pipeline.

TABLE 7.—INDUSTRY CRUDE TRANSPORTATION COSTS TO REFINING CENTERS, 1985

	From Middle East to —			From Valdez to—		
	Chicago	Minnesota	Billings	Chicago	Minnesota	Billings
<b>Via Northern Tier:</b>						
Tanker <sup>1</sup> .....	1.80	1.80	1.80	0.65	0.65	0.65
Northern Tier Pipeline <sup>2</sup> .....	.90	.90	.51	.90	.90	.51
Interprovincial/Lakehead.....	\$.23			\$.23		
Other.....		.17	.15		.17	.15
<b>Total</b> .....	<b>2.93</b>	<b>2.87</b>	<b>2.46</b>	<b>1.78</b>	<b>1.72</b>	<b>1.31</b>
<b>Via Kitimat:</b>						
Tanker <sup>1</sup> .....	1.78	1.78	1.78	.54	.54	.54
Kitimat Pipeline <sup>2</sup> .....	.79	.79	.79	.79	.79	.79
Interprovincial/Lakehead.....	\$.60	\$.38		\$.63	\$.40	
Other.....		.17	.70-1.00		.17	.70-1.00
<b>Total</b> .....	<b>3.17</b>	<b>3.12</b>	<b>3.27-3.57</b>	<b>1.96</b>	<b>1.90</b>	<b>2.03-2.33</b>
<b>Via Capline:</b>						
Tanker <sup>1</sup> .....	2.10	2.10		3.50	3.50	
Loop.....	.33	.33				
Capline.....	.47	.47		.47	.47	
Chicag.....	.16			.16		
Minnesota.....		.40			.40	
Tankage.....	.05	.05		.10	.10	
<b>Total</b> .....	<b>3.11</b>	<b>3.35</b>	<b>NA</b>	<b>4.23</b>	<b>4.47</b>	<b>NA</b>

<sup>1</sup> VLCC tanker costs at W. S. 93 (1976 basis).<sup>2</sup> As estimated by project sponsor.<sup>3</sup> Escalated by 15 percent from current levels.

The next two tables are extensions and variations of the basic cost information developed in the previous tables. Table 7 on the opposite page, for example, covers movements of North Slope crude, designated as "from Valdez," in addition to movements from the Persian Gulf. The basis is similar to that given in the discussion of Table 6. Unlike movements from the Persian Gulf, movements from Valdez are in American flag vessels. In developing these costs, a fundamentally different approach was used since this is a protected market and hence quite unlike the foreign flag tanker market. In this case, transportation costs were based on a 10 percent discounted rate of return to the American flag tanker owner assuming the construction of 150 MDWT tankers.

Table 7 shows the large cost advantage enjoyed by the Northern Tier pipeline for moving North Slope crude to the Northern Tier states and the Midwest unmatched by the other systems. Versus the Kitimat pipeline, for example, the advantage ranges from 18 cents to one dollar per barrel.

TABLE 8.—ESTIMATED PIPELINE VOLUMES

[Thousand barrels per day]

Destination	1980	1981	1982	1983	1984	1985-99
<b>Northern Tier:</b>						
Glacier pipeline.....	75	85	95	105	115	
Butte pipeline.....	40	45	50	55	60	
Mandan.....	10	12	14	16	18	
Clearbrook.....	415	450	550	645	740	
<b>Total</b> .....	<b>540</b>	<b>592</b>	<b>709</b>	<b>821</b>	<b>933</b>	
<b>Kitimat: Edmonton.....</b>	<b>300</b>	<b>350</b>	<b>400</b>	<b>430</b>	<b>450</b>	<b>500</b>

Basis: 1. 1980 1st year of operation for both projects; 2. Volume estimates as made by project developers.

Table 8 gives the volume estimates used by the sponsors of the Northern Tier pipeline in developing their cost and tariff estimates. Although arrived at independently, the volume estimates are surprisingly close to those developed by Amoco and lend credibility to Northern Tier's cost estimates. By contrast, the

Kitimat pipeline volumes may be high, i.e., 500 MB/D in 1985 versus Amoco's estimate of 300 MB/D plus an unknown amount to Chicago and refiners further east.

TABLE 9.—COST COMPARISONS: NORTHERN TIER VERSUS KITIMAT

	Northern Tier	Kitimat
<b>Sponsor's cost estimates:</b>		
Cost of steel (per ton).....	\$542.00	\$478.00
Average R/W (per rod).....	17.60	10.70
Electric station (per hp).....	197.00	256.00
Tank farm (per barrel).....	5.31	8.26
Lay cost (per foot):		
Western mountainous.....	44.97	46.89
Eastern rolling.....	25.92	
<b>Total project cost (thousands):</b>		
Basic estimate—current dollars.....	869.00	407.00
Contingency.....	81.00	19.00
Interest during construction and financing cost.....	130.00	43.00
Escalation to date at construction.....	137.00	25.00
Grand total.....	1,217.00	494.00

## OPERATIONS DATA

[In thousand barrels per day]

	Pipe diameter (inches)	
	42/40	30
Planned startup volumes.....	540	300
1985 forecast.....	933	500
Maximum economic expandable capacity.....	1,300	500
Maximum capacity.....	1,675	650

A comparison of certain key cost components in the two pipeline estimates is given in this slide based on Amoco's initial participation in the Kitimat study group and information supplied by Northern Tier. Northern Tier has used a substantially higher steel cost estimate than Kitimat, even though one might expect steel to cost somewhat more in Canada versus the U.S. Right-of-way costs are over 60% higher in the Northern Tier estimates. Cost estimates for electric stations and tank farm construction are higher for Kitimat. We are unaware of the reason for the difference in electric station costs, but can appreciate the difference in tank farm costs since the Kitimat site will require much more extensive development and the heavy snowfall (in excess of 200 inches/year) will probably require the use of relatively expensive covered floating roof tanks.

The basic cost estimates for the two lines are \$869 and \$407 million. Next are several additional items which both sponsors have added to the basic cost estimates. The contingency allowance for Northern Tier is over four times larger than that for Kitimat. Similarly, the allowance included by the Northern Tier sponsors are 3 to 5 times larger than those provided for by the Kitimat group to cover allowances in other areas. On balance, we conclude the Northern Tier estimate is substantially more conservative than that used by the Kitimat sponsors. On the bottom of the table, we have shown pertinent operating data. It is of interest to note that using the same pressure drop per mile inherent in the 650 MB/D capacity estimate by the Kitimat sponsors would yield a comparable capacity on the Northern Tier pipeline of 1,675 MB/D.

TABLE 10.—UNIT COST COMPARISONS, NORTHERN TIER VERSUS COLONIAL

[Dollars per foot]

	Northern Tier <sup>1,2</sup>	Colonial <sup>2,4</sup>
Major river crossing.....	600.00	410.00
Lay cost:		
Western (mountainous, 663 mi).....	44.97	
Eastern (rolling, 887 mi).....	25.92	
Average.....	34.12	26.15

<sup>1</sup> Before price escalation and contingency allowance.<sup>2</sup> 1976 actual for 40-in Port Arthur to Baton Rouge.<sup>3</sup> Missouri and Columbia Rivers.<sup>4</sup> Mississippi and Atchafalaya.

Table 10 illustrates some of the further comparisons Amoco has made to access the reliability of the Northern Tier pipeline cost estimate. Recently, large diameter pipeline crossings of major rivers were made by Colonial Pipeline and these averaged about \$400/foot, which are only two-thirds the \$600/foot used in the Northern Tier estimate. Also shown in this table are lay costs encountered by Colonial, which again suggest the Northern Tier estimates are conservative.

TABLE 11.—INDUSTRY CRUDE TRANSPORTATION COSTS (1985)\* FROM MIDDLE EAST

	Dollars per barrel to—				
	Chicago	Minneapolis	Kansas City	Billings	Mandan
Gulf coast/Cushing.....	3.21	3.31	3.01	(1)	(1)
Loop/Capline.....	2.73	2.98	(1)	(1)	(1)
Sohio/Cushing.....	3.41	3.51	3.21	(1)	(1)
Northern Tier.....	2.69	2.66	2.82	2.40	2.40
Kitimat.....	3.01	2.98	3.54	?	(1)

<sup>1</sup> No established route.

\* Assumes—(1) capacity utilization of new construction at 12 DCF return on investment; (2) 1976 tariffs for existing pipelines; (3) VLCC tanker costs at W.S. 93 (1976 basis).

Table 11 develops the pipeline costs on a basis different from that used to develop the costs discussed thus far. In an effort to make the pipeline costs truly comparable via the competing routes, Amoco developed pipeline costs for each of the routes on the basis each pipeline would operate at full capacity from the date of initial operation. Capital costs were based on a 12 percent discounted cash flow return on the investment associated with each pipeline. The previous cost comparisons used the sponsor's tariff estimates which may or may not have been computed on a comparable basis. While the method used in this table should result in transportation costs that are more comparable, it does, of course, result in pipeline costs that are low and hence they would yield an unacceptably low rate of return for the projects. This is due to actual volume profiles resulting in much lower thruput volumes than those used in these calculations.

Surprisingly, the conclusions are about the same as those given in Tables 5 and 7 which used the sponsor's tariffs. Again, Northern Tier is the lowest cost route for supplying the Midwest. Here, for example, Northern Tier has a 32¢/bbl. lower cost for supplying the Chicago area refiners versus the 24¢/bbl. advantage given in Table 5, using the sponsor's tariff estimates.

TABLE 12.—INDUSTRY CRUDE TRANSPORTATION COSTS (1985)\* FROM VALDEZ

Via—	Dollars per barrel to—				
	Chicago	Minneapolis	Kansas City	Billings	Mandan
Gulf coast/Cushing.....	4.61	4.71	4.41	(1)	(1)
Loop/Capline.....	4.13	4.38	(1)	(1)	(1)
Sohio/Cushing.....	2.15	2.25	1.95	(1)	(1)
Northern Tier.....	1.54	1.51	1.67	1.25	1.25
Kitimat.....	1.77	1.74	2.30	?	(1)

1 No established route.

\* Assumes— (1) Capacity utilization of new construction at 12 DCF return on investment; (2) 1976 tariffs for existing pipelines; (3) tanker costs at 10 percent DCF on investment for Jones Act tankers.

This table give transportation costs for delivering North Slope crude to the various refining centers using pipeline costs developed by Amoco for each of the competing routes as explained in the previous discussion. Again, the conclusions are the same as those using the tariffs developed by the pipeline sponsors. In all cases, the Northern Tier pipeline is the lowest cost route for delivering Alaskan North Slope crude to the Midwest/PAD IV area.

For deliveries to the Chicago and Minneapolis refining centers, the Northern Tier pipeline offers a 23¢/bbl. advantage over its nearest competitor, the Kitimat pipeline. In the Kansas City area, it has a 28¢/bbl. advantage over deliveries via the proposed pipeline by Sohio to Midland, Texas, its nearest competitor for these deliveries. As shown in the table, only the Northern Tier pipeline offers a direct method for delivering North Slope crude to Montana and North Dakota refiners. Although circuitous routes for moving North Slope crude to these refining centers can be devised, they would result in much higher costs than the direct Northern Tier route.

TABLE 13.—HIGH SULFUR CRUDE CAPACITY IN MIDWEST AND ROCKIES (1975)

	Amoco/Conoco survey	
	Thousands of barrels per day	(thousands of barrels per day)
Minneapolis refiners.....	160	
Others in Midwest.....	880	
Rocky Mountains.....	160	
Total Midwest/Rockies high sulfur crude capacity.....	1,200	1,560
Less local high sulfur production and Canadian imports.....	—500	
Potential high sulfur available for Northern Tier.....	700	1,160

There have been speculations that the volumes of low sulfur crude economically available for movement via the Northern Tier pipeline could be limited. For this reason, Amoco made a study of the medium/high sulfur crude processing capability of the refineries served by the Northern Tier pipeline to determine their requirements for this type of crude. The Northern Tier pipeline, of course, is particularly well suited for economical delivery of medium/high sulfur crudes from the North Slope and Persian Gulf to these refiners. As shown in Table 13, Amoco's work indicates a total medium/high sulfur crude processing capability of 1,200 MB/D by the refineries that are economically served by this pipeline. A more detailed refinery-by-refinery survey undertaken jointly by Amoco and Conoco suggests this estimate is conservative since it indicates 1,560 MB/D could be processed in these refineries. Subtracting the 500 MB/D of domestic medium/high sulfur crudes available to the refineries economically served by the Northern Tier pipeline leaves 700 to 1,160 MB/D of this quality crude that could be used by these refineries.

## MIDWEST/PAD IV SUPPLY BALANCE

(Thousands of barrels per day)

	1975	1980	1985
<b>Product demand:</b>			
PAD IV.....	484	581	617
PAD II demand.....	4,556	5,790	6,020
Less: Oklahoma and Kansas demand.....	-357	-460	-480
Plus: Eastern PAD I effect.....	+170	+170	+170
<b>Total demand.....</b>	<b>4,853</b>	<b>6,081</b>	<b>6,327</b>
<b>Supply:</b>			
Indigenous production.....	1,046	1,006	1,226
Canadian imports.....	586	120	50
Residual fuel:			
From gulf coast.....	32	50	50
Imports.....	38	160	160
Other products:			
Via barges.....	135	200	200
Via pipelines.....	1,148	1,270	1,270
Deliveries to PAD V.....	-45	-45	-45
Crude oil:			
Via barges.....	36	50	50
Via pipelines from South.....	1,895	2,520	2,520
Deliveries to other areas.....	-96	-20	-30
Allowance for operational flexibility.....		-260	-260
Processing gain.....	117	140	146
Inventory changes, exports, etc.....	-39		
<b>Supply, via existing systems.....</b>	<b>4,853</b>	<b>5,191</b>	<b>5,337</b>
<b>Shortfall, absent expansions (crude and products).....</b>		<b>890</b>	<b>990</b>
<b>Location of shortfall:</b>			
Montana.....		55	80
North Dakota, Wisconsin, and Minnesota.....		195	245
Balance of Midwest.....		640	665

## MIDWEST/PAD IV SHORTFALL

The demand forecast used to develop the Midwest/PAD IV shortfall was prepared about a year ago and so does not reflect recent speculations on the new Administration's energy programs. The forecast is based on total U.S. energy demand increasing from 71 quadrillion BTU's in 1975 to 99 quadrillion BTU's in 1985, a growth of about 3.4 percent/year. Coal and nuclear energy are forecasted to account for a little over half this increase in energy needs. Gas production is projected to experience about a 1.5 percent/year decline over the period. Oil is forecast to make up the resulting difference in total energy demand and that available from other sources. On this basis, oil demand is expected to increase from 16.3 MB/D in 1975 to 22.4 MB/D by 1985, an increase of 3.2 percent/year.

In general, adequate pipeline capacity exists between the Midwest and PAD IV and so these two areas have been combined in studying the shortfall problem. Within this area there are local shortfall problems in the northern tier states and these will be discussed later. In order to study Midwest supply logistics, it is necessary to define a geographical area somewhat different than the Bureau of Mines PAD II district. Oklahoma and Kansas are removed since the addition of Texoma, Seaway and Explorer pipelines eliminate the supply problems into this area. The critical supply problems develop north of this area. West Virginia and Western Pennsylvania and New York are added since they are a logical part of the same pipeline network serving the Midwest.

The opposite table summarizes the supply balance for this combined area. As shown, demand projections for PAD II have been modified to fit the above definition. Total demand for the area is compared to the supply available on the

basis there is no further expansion of the pipeline systems serving the area to arrive at an overall shortfall. In addition to construction of new pipelines, expansion of the existing pipelines serving the area is, of course, possible, although it appears most expansions would likely be high cost and have questionable economics. As an example, absent economic considerations, we estimate Explorer and Capline pipelines together have an expansion potential of around 500 MB/D.

#### NORTHERN TIER REFINERY BALANCE

[In thousands of barrels per day]

	1975	1980	1985
<b>Montana:</b>			
Refining capacity (year end).....	149		
Requirements as a percent of 1975 refining capacity.....	(85)	(90)	(94)
Refinery requirements.....	126	135	140
<b>Refinery supply:</b>			
Canadian crude.....	45	10	
Domestic crude:			
Montana.....	27	70	60
Wyoming.....	54		
<b>Total supply.....</b>	<b>126</b>	<b>80</b>	<b>60</b>
<b>Shortfall.....</b>	<b></b>	<b>55</b>	<b>80</b>
<b>Minnesota/Wisconsin/North Dakota:</b>			
Refining capacity (year end).....	319		
Requirements as a percent of refining capacity.....	(75)	(88)	(91)
Refinery requirements.....	239	280	290
<b>Refinery supply:</b>			
Canadian crude.....	174	35	
North Dakota.....	50		
Montana.....	9	50	45
Wyoming, Texas, etc.....	6		
<b>Total supply.....</b>	<b>239</b>	<b>85</b>	<b>45</b>
<b>Shortfall.....</b>	<b></b>	<b>195</b>	<b>245</b>

Canadian imports include natural gas liquids and feedstocks to SNG plants and hence some volume is shown continuing on past Canada's official 1982 crude oil cut-off date. Product movements via existing pipelines for 1980 and 1985 are based on a detailed analysis of the product pipelines serving this area. Operating factors which average about 80% were applied to rated pipeline capacities versus about a 96% operating factor from a machinery operating standpoint alone. Much of this difference reflects a recognition that the demand for products, particularly LPG's, is much greater in the winter months than in the summer and that the winter pumping capacity is less due to a shift from gasoline to heavier products, e.g., furnace oil. The rest of the difference reflects reserve capacity to meet peak winter demands.

A similar analysis was made on the crude oil pipelines serving this area. The same operating factor used for refineries was applied to the rated capacity of the pipelines which technically would provide some spare capacity since pipelines have higher operating factors than refineries from a machinery standpoint. In practice, little advantage can be taken of this difference. In fact, as shown in the table, a judgmental reduction of an additional 260 MB/D of pipeline capacity to the Midwest has been included to recognize pipeline scheduling problems and the ability of individual refineries to run at 8-10% over rated capacity for short periods of time, a characteristic not shared by pipelines.

The shortfall given in the table is the combined shortfall for both crude and products in this area. The amount that will be satisfied via crude versus product imports from other areas of the country, or from foreign sources, is dependent on where future refinery expansion occurs, government regulations regarding product imports, etc.

The portion of the total shortfall for this area lying in the northern tier states is shown on the bottom of the preceding table and developed in detail on the facing table. These states have supply problems unique from the rest of the area because of their geographical location. The refinery demand for these local areas is based on growth in refinery runs to full utilization of refinery capacity, but no

further expansion of capacity. Such expansions would not appear essential from the standpoint of meeting product demand in these areas, although economics or other considerations could dictate refinery capacity expansions.

It is important to recognize the large uncertainty surrounding the single point shortfall estimates given in the preceding tables. The shortfalls are highly sensitive to crude production forecasts including future production of shale and coal liquids, Alaskan gas production and distribution, GNP forecasts, and the effectiveness of energy conservation along with new programs that will likely be forthcoming from Congress and the President. For example, we estimate variations in product demand, absent major new programs, plus the uncertainty surrounding the allocation of intrastate gas from PAD III boilers alone could change the shortfall by  $\pm 400-600$  MB/D for the PAD IV/Midwest area.

Senator MELCHER. We have on our witness list Mr. L. M. Cook, vice president of Atlantic Richfield Co.

**STATEMENT OF WESLEY WITTEN, MANAGER, WESTERN AREA  
PIPELINE PROJECTS, ATLANTIC RICHFIELD CO.**

Mr. WITTEN. I am Wesley Witten, manager of western area pipeline projects for Atlantic Richfield Co.

My responsibilities include the management of transportation projects associated with North Slope crude in Alaska and other Western States.

Atlantic Richfield Co. has carefully reviewed the proposed Senate bill S. 1868, National Crude Oil Supply and Transportation Act of 1977, and appreciates this opportunity to provide our views on this important matter.

The FEA study, "Petroleum Supply Alternatives to the Northern Tier States through 1980" identifies projected petroleum shortages in Northern Tier States, particularly Montana and eastern Washington.

These Northern Tier States have historically been dependent upon Canadian feedstocks. However, as you know, the Government of Canada has begun a policy to curtail and eventually eliminate crude export to the United States.

Montana is expected to be the most severely affected of the Northern Tier States, with petroleum supplies from Canada projected to fall 35 percent short of demand in 1978.

In the short run, this shortage will be dealt with by reallocation of domestic crude suppliers, import of crude by unit trains, and by product import.

Eastern Washington is expected to have a product shortfall due to a decline of product availability from Montana.

Concern over this Northern Tier crude problem was recognized at the Western Governors Conference in early September where a resolution was passed supporting the construction of a west-to-east pipeline to supply additional crude to the Northern Tier States.

Alaskan crude oil is available to meet crude supply shortages in the Northern Tier region providing that a pipeline system can be constructed to deliver that crude.

We support the basic thrust of S. 1868, which should expedite the construction of such a pipeline.

Specifically, effective and positive features of the bill include:

(1) That the involved Federal agencies expedite preparation of environmental impact studies.



(2) That Interior make a final decision by February 1, 1978.

(3) That judicial review be limited by requiring that claims be restricted to the Court of Appeals, District of Columbia.

Similar legislation, the Trans-Alaskan Pipeline Act of 1973, succeeded in expediting the granting of all necessary rights-of-way, permits, leases, and other authorizations that cleared the way for the implementation and construction of the Alaskan pipeline after years of delay.

Hopefully, similar success will be achieved as a result of your work here.

Atlantic Richfield basically supports S. 1868 with one very important exception. In section 4(d) of the bill the term "crude oil transportation system" is defined as meaning:

A crude oil pipeline within and subject to the jurisdiction of the United States and the port, terminal, tank farm, pumping stations, off-take points, and other related facilities associated with moving substantial volumes of Alaskan crude oil by pipeline to Northern Tier and other inland states.

A literal interpretation of that section would preclude a proposed project that Atlantic Richfield believes would provide an effective solution to the northern tier crude shortage problem.

That alternative is the Trans-Mountain project, which has major physical segments within Canada proper.

I would like to briefly describe that system for you.

The Trans-Mountain pipeline project, as proposed, would originate at Atlantic Richfield's dock facility at the Cherry Point Refinery on Puget Sound in Washington.

Phase 1 of the proposed project would achieve the transportation of approximately 180,000 barrels per day of Alaskan or other offshore crude from Cherry Point to Edmonton, Canada, for delivery to Northern Tier and Midwest States.

An expanded full reversal, phase 2 program, could transport up to 350,000 barrels per day.

A more detailed description of the proposed system has been submitted for inclusion in the record as exhibit A.

There are several important advantages to the proposed Trans-Mountain Pipeline project that should be recognized.

Because of the in-place pipeline, the project could be in operation by early 1979 if permits are expeditiously granted in the early part of 1978.

Thus, timing is a major advantage of the proposed Trans-Mountain system.

Capital costs are considerably less for the project than for any major alternative project that has been presented.

The environmental disruption would be considerably less than for the development of a grassroots alternative project.

The use of a central port facility at Cherry Point, which could be used to serve other Puget Sound refineries, would maintain tanker traffic in the sound at about current levels and would not increase associated environmental concerns.

The Cherry Point dock, which is a deepwater facility on Puget Sound, is capable of handling tankers of 150,000 deadweight tons currently.

As part of the project, a new berth will be constructed to handle 200,000 deadweight-ton tankers, if a favorable outcome of a Washington State lawsuit is obtained.

We believe the Cherry Point docking facilities to be a fundamental key to the overall system.

As a final advantage, the project offers what appears to be an ideal tactical solution to the projected west coast crude surplus.

A word about the phrase "west coast surplus."

For over half a century now the States of Oklahoma, Louisiana, and Texas provided the dominant supply of the Nation's petroleum requirements and, yet, at no time has reference been made to a Texas-Oklahoma-Louisiana surplus of crude oil.

Transportation systems were put in place to move the crude and product to markets in the West, North, and East.

From a national planning standpoint, it is appropriate and essential to view the existing situation on the west coast in the same light.

In the following remarks it should be understood that the word "surplus" is used with the above in mind.

Estimates of surplus crude oil on the west coast over the next several years have been estimated from 200,000 barrels per day to 500,000 barrels per day. These estimates, however, are based on a set of highly debatable assumptions.

Demand growth for crude oil on the west coast has been less than the historical average in the period since 1973 when crude and petroleum prices increased several fold as a result of OPEC's newly found, monopolistic strength.

There remains a question as to what demand growth will be in the near and distant future, considering such factors as unknown prices, the effectiveness of the proposed Presidential national energy conservation program and the growth rate of the economy.

Some recovery may even now be underway.

Annual demand growth this year has been about 7.5 percent, compared to 2.5 percent over the last 4 years.

This equates to a recent growth of 150,000 barrels per day compared to 50,000 barrels per day over the last 4 years.

On the supply side, the extent of Elk Hills Naval Petroleum Reserve production in California, the extent of California's Outer Continental Shelf production, the extent of south Alaska production, and the extent of further developments on the North Slope of Alaska, all have essential elements of uncertainty which impact the size and duration of a west coast surplus.

It is important to note that Atlantic Richfield studies indicate that barring important development in the above regions could very well swing the crude oil balance to a deficit position. The asserted "glut" of today could become the wishful dream of tomorrow.

Further questions regarding the disposition of the west coast surplus arise because of the progress, or lack thereof, of alternative pipeline systems.

The proposed Sohio project, having a pipeline beginning in Long Beach, Calif., and terminating in Midland, Tex., has been caught up in environmental concerns and is still delayed.

The Sohio project has a proposed capacity of 50,000 barrels per day which could resolve the west coast surplus problem.

We note, however, that the Sohio project would not deal with the Northern Tier petroleum shortages. Hence, the Trans-Mountain project is viewed as independent of the proposed Sohio project.

Another important major pipeline system proposal is the 800,000 barrels per day Northern Tier project.

This proposed system will extend from a deepwater port on the west coast to the Chicago area. The project will be discussed by Mr. Curran of the Northern Tier Co. at these hearings.

Adding to the uncertainty is another factor, which was the major thrust of a presentation made by Byron E. Milner, vice president of Atlantic Richfield Co., at a hearing of the House Subcommittee on Special Investigations hearings in San Francisco on August 8, 1977.

At that hearing, Mr. Milner pointed out that over the next several years, we will not encounter a conventional excess of availability of west coast crude oil, but, rather, a surplus of crude oil of unsuitable quality for existing refineries.

It is essential to note that because of the sulfur content and quality of Alaskan crude, it is necessary for many west coast refiners to continue to import foreign, low-sulfur crude oil, possibly up to 400,000 barrels per day.

Under current rules and regulations administered by the FEA, financial incentives do not exist for the retrofitting of refineries to handle increased high-sulfur crude processing.

Should FEA rules and regulations be altered to encourage west coast refiners to make necessary retrofits, up to 400,000 barrels per day of additional Alaskan crude could be used.

Thus, for this wide spectrum of reasons, there remains great uncertainty as to the extent and duration of a west coast surplus.

That uncertainty supports a plan which would proceed cautiously in a phased approach until the many issues are resolved.

The proposed Trans-Mountain project provides that phased approach.

Summarizing, for reasons of timing, minimum capital expenditures, minimal environmental impact, and providing a phased approach to a problem with great uncertainty, the Trans-Mountain Pipeline project offers important and significant advantages.

We feel that concern raised in this instance over a Canadian/United States, as opposed to an all-U.S. line, is unwarranted.

In January 1977, the United States and Canadian Governments signed a transit pipeline agreement which has been ratified by the U.S. Senate and approved by the Canadian Parliament.

This reciprocal agreement applies to all existing and future pipelines for oil and gas passing through the United States and Canada, and provides a firm basis for cooperation for energy transportation systems that are advantageous to both countries.

Ample precedent exists for this kind of United States/Canadian cooperation since two major pipelines, now carrying hydrocarbons to Canadian destinations, pass through U.S. territory. These lines carry much of the oil consumed in eastern Canada.

Atlantic Richfield recognizes the dual problem of a shortage of petroleum in the Northern Tier States, particularly Montana, and a

surplus of crude on the west coast. The Trans-Mountain project can effectively contribute to a solution to both.

As a company, Atlantic Richfield is not confronted with a substantial crude surplus problem. Nearly all of our Alaskan crude will be refined at the new Cherry Point Refinery which was specifically designed for Alaskan crude, and the modernized refinery at Carson, Calif.

Nevertheless, we strongly believe that it is in the best interest of the country.

In summary, we fully support the purpose of S. 1868 to expedite Federal approvals for a transportation system, or systems, to move Alaskan crude oil to Northern Tier or inland States.

We do believe, however, that the provision requiring any crude oil pipeline to be wholly within the United States to be unduly restrictive, and strongly recommend that language in the bill be altered as follows:

The term "crude oil transportation system" means a crude oil pipeline and the port, terminal, tank farm, pumping stations, offtake points, and other related facilities associated with moving substantial volumes of Alaskan crude oil by pipeline to Northern Tier and other inland States.

That change would allow the Trans-Mountain project to proceed expeditiously to solve Northern Tier need.

I thank the committee for this opportunity to make our views known.

I am now prepared to respond to any questions.

Senator MELCHER. Thank you very much. What procedures or process has ARCO filed in the way of applications for reversal, Trans-Mountain?

Mr. WITTEN. There are three permits required. The State of Washington through the Environmental Siting Council, reviews the State permit. That application was filed on April 29 of this year. The Corps of Engineers has jurisdiction over the dock construction, the dock permit. That application was filed in the first week in May of this year, and then the portion with Canada, the revisions there are under the jurisdiction of the National Energy Board. That application was made the first week in May.

Senator MELCHER. Is it ARCO's feeling that an environmental impact statement, Federal environmental impact statement is necessary?

Mr. WITTEN. There is an impact statement requirement by the Corps of Engineers for the dock permit and that evaluation is currently underway both by the research that is supplied by ARCO or the Trans-Mountain project and by the Corps of Engineers. That work is in progress.

Senator MELCHER. So, in effect, you are under the NEPA Act.

Mr. WITTEN. Right.

Senator MELCHER. Would you anticipate as required under the NEPA Act, a full-fledged review of all alternatives will be part of that study?

Mr. WITTEN. Currently, the Corps of Engineers says that is not required for the application we have pending, although it is a possibility depending upon the outcome of the review and the hearings. I guess we are not certain that will be required or not.

Senator MELCHER. It could be you are looking at a time frame of up to 2 years for Federal permitting.

Mr. WITTEN. If we were required to do the entire IES, some longer time would be required, but since the amount of investigation and review and the things spoken of earlier here, would impact in such a dramatic way on the other project that it is not likely to require as long a time to complete the review.

Senator MELCHER. I am aware of the reaction of the legislature of the State of Washington, which passed a legislation by substantial votes in the past session of their legislature, objecting to any further increase in tanker traffic in the State of Washington.

That seems to pretty well speak for itself. However, the Governor vetoed the bill, so it is not a matter of law there, but it seemed to reflect the attitude of the people in Washington, that they object to any increase in tanker traffic within the Sound.

I don't think we need to go into that. That seems to be clear. What about the people in British Columbia? What do they say about increasing both tanker traffic and the size of the tankers that would go into the Sound to unload at Cherry Point?

Mr. WITTEN. There is a lot of public statements that have been made. I think they need to be considered in that context. The Canadian National Energy Board has commissioned a professor, Andy Thompson from the University of Vancouver, to make an investigation of all marine activities related to transshipment. He proposed to have had one public hearing already to identify who the affected parties would be and who should make formal testimony.

I believe he intends to hold formal hearings probably in November of this year. I think at that time, you will see more positive statements of the British Columbia reaction.

I think the sentiment of the public statements made in the press and other visits, we have had with different people, is that the general attitude and sentiment would be that the British Columbia people don't want any increase in marine traffic for any project.

Senator MELCHER. The people in British Columbia in that area are probably part of this coalition of environmental groups, that Mr. Curran spoke of, that recommended not Cherry Point, but recommended Port Angeles as the docking facility.

Mr. WITTEN. Yes. It is supported by the Canadian environmental group.

Senator MELCHER. Do you have any time frame on this, representative of when the Canadian Energy Board will reach a finding?

Mr. WITTEN. His current timetable is not specific, but he has been talking in terms of having the first public hearings in November and to conclude his findings in probably June of next year.

The national energy board in their timetable planned originally to have their conclusion by about April of next year, so I understand the national energy board is discussing with the marine adviser to have his findings completed by April of next year, also.

That is not specific and I can't say that is what will happen.

Senator MELCHER. ARCO is an owner of the known reserves on the North Slope of, what, 20 some percent?

Mr. WITTEN. Right; 20.3, I believe.

Senator MELCHER. You are also an owner of the Alyeska Pipeline, the same percentage.

Mr. WITTEN. No; 21 percent.

Senator MELCHER. You are an important owner of both the known reserves on the North Slope and also the Alyeska Pipeline?

Mr. WITTEN. Yes.

Senator MELCHER. Do you agree with the testimony, we have heard previously today, that the capacity of the pipeline is 2 million barrels per day?

Mr. WITTEN. The original design capacity was up to a maximum of 2 million barrels, then it has interim steps of development up to that level, and the 1.2 million is one of those interim steps.

There are—physically and technically it is possible to have interim steps between 1.2 and 2 million.

Senator MELCHER. Did ARCO feel it is desirable to get up above 2 million barrels per day?

Mr. WITTEN. Yes.

Senator MELCHER. To what?

Mr. WITTEN. We suspect the maximum might be 2.6.

Senator MELCHER. Aren't we talking about a greater surplus than you described in your testimony?

Mr. WITTEN. A very difficult thing in determining or estimating the size of the surplus is the balance between the demand and between the available supply.

Our forecast indicates the demand on the west coast is going to continue to increase for several reasons, and that demand will increase along with the increase in available supply. It is very complex. As I report here, our estimates are that the surplus will range from 200,000 to 500,000 barrels a day, in that range, and even by giving it that kind of a range, we emphasize our uncertainty of the preciseness of those estimates.

Senator MELCHER. At least to the extent that 21 percent control gives you a chance to determine what Alyeska did, you have got some control over how much crude there will be available on the west coast from Alaska.

What I am trying to elicit from you, is whether your estimate of the so-called surplus is based on 1.2 million barrels per day transportation through the Alyeska Pipeline or 1.6 million barrels per day?

Mr. WITTEN. The estimates we have here are based on increasing the 1.2 million up to maximum of 1.6 million, in the early time.

Senator MELCHER. And your estimate of the surplus is based on which of them?

Mr. WITTEN. It is based on a growing scale, starting with the 1.2 million in 1978, and then growing at some period of time up to 1.6 million in the early nineteen eighties.

Senator MELCHER. So, you think if Elk Hills is producing somewhere near maximum efficient rate and Alyeska is up to 1.6 million barrels per day, and there isn't much change in the refineries on the west coast, as to how much Persian Gulf crude or other foreign crude they use, there will still only be a 600,000-barrels-per-day access on the west coast?

Mr. WITTEN. We think the maximum would be 500,000 barrels per day.

Senator MELCHER. You are giving yourself some leeway, but your figures are vastly different than FEA and other estimates have been.

Mr. WITTEN. We realize that and we share the dilemma, in the complexity in developing those future surplus estimates. It is a very complex question and we realize that different people will arrive at different estimates, since the assumptions are so variable.

Senator MELCHER. But it is ARCO's position that as an owner of crude, a portion of the crude only, the North Slope and part owner of Alyeska, that it is desirable to produce and transport to Valdez at least the 1.6 million barrels a day, as quickly as possible.

Mr. WITTEN. Right.

Senator MELCHER. Now, as to projected tariffs, I assume you have some.

Mr. WITTEN. Yes. Our projected tariffs, to give you a couple of significant ones, we feel under the alternating flow, or yo-yo, we believe we feel the tariffs that could be delivered into Billings would be \$1.42, and if we went to the full reversal at 350,000 barrels a day, that tariff would reduce to \$1.09.

Senator MELCHER. How about the Twin Cities?

Mr. WITTEN. Into Clearbrook, which is the reference point we use, the tariff, the alternating flow would be \$1.12 and under full reversal, 78 cents.

Senator MELCHER. Now, under phase 2, that would give you the tariff into the Twin Cities of about 98 cents?

Mr. WITTEN. We would say to Clearbrook, 78 cents. In my mind I don't have the Clearbrook/Twin Cities tariff, but you would simply add the portel pipeline there perhaps.

Senator MELCHER. Of course, you are expressing tariffs from Valdez?

Mr. WITTEN. No; these are from Cherry Point to those points, then Valdez you need to add the marine coast.

Senator MELCHER. Which is what?

Mr. WITTEN. Our estimate is 55 cents from Valdez to Cherry Point. That will vary by different companies, depending on the age of their tankers and other operating conditions. We would not quarrel with the 65 cents shown here for, in the Northern Tier proposal as being perhaps a composit industry average.

Senator MELCHER. Well, if I can use 65 then, that is what Northern Tier used, and the \$1.12 under phase 2, that would be \$1.77 into Billings, and I believe a \$1.53 into the Twin Cities, which is Valdez, to these points, including 20 cents in the case of Twin Cities from Clearbrook to Twin Cities. I am not saying that is accurate, but it must be somewhere near accurate. Those would be substantially higher traiffs than what Northern Tier has projected.

The point I would like to establish is this. ARCO as expressed by your chairman, Mr. Kieschnick is very much in favor, as he expressed earlier to me, is very much in favor of solving the dilemma on how to get the crude from Alaska or for that matter from other points to refineries that need it, at favorable tariffs.

Now, since your tariff projections are considerably higher than Northern Tier, does it follow that ARCO's position is still what it was expressed to me earlier this year by Mr. Anderson, and by Mr. Kieschnick of being in favor of delivering the crude oil as quickly and rapidly and expeditiously as possible, at the minimum tariff?

**Mr. WITTEN.** I think I would certainly agree with their statement. The one statement I would make here though, in a comparison of the tariffs, we talked about the ARCO tariffs earlier and I agree with those, I don't believe we would agree with the Northern Tier tariffs.

Our estimates of those are different. We think the difference, and that the Trans-Mountain tariffs delivered into Billings is 40 cents higher than the Northern Tier, and delivering into Clearbrook, that we could be competitive or even maybe slightly cheaper.

That is our estimate of their tariffs which we have to make in order to make a valid comparison, so I think our objectives still are to do the things that Mr. Anderson and Mr. Kieschnick suggested, to manage the west coast surplus in the most expeditious practical way that we can, and to make that oil available to those refineries and States that need it the worst.

We are striving to do that.

**Senator MELCHER.** Isn't it true if both Northern Tier and Sohio were built there isn't any need for Trans-Mountain reversal?

**Mr. WITTEN.** Looking to Northern Tier, the Sohio project doesn't offer any solution there. So I don't believe those two should be compared. I believe if Northern Tier were in place and operating, there likely would not be a need for the Trans-Mountain. It is simply a question of whether the Trans-Mountain can be in place delivering crude into that very short deficit area quicker than any other project. That is our belief.

We believe that can be done. We believe then that the Trans-Mountain project is an alternative that needs to be kept alive and viable in the event other things do not happen as we would all wish.

**Senator MELCHER.** Let me rephrase that. Isn't it true that ARCO's position would be that if there was assurance that Northern Tier could be constructed and that Sohio would be constructed, that there would be no possibility of a surplus of crude from Alaska or from any—or a combination of Alaskan and Elk Hills domestic crude would not be in surplus to the west coast and that the responsibility of the oil companies to be assured of distribution of the crude, of this domestic crude, would be met, and therefore, a desirable result?

**Mr. WITTEN.** I believe if the Sohio project would be built, we will talk about that, if that were built, we would continue to support the Trans-Mountain reversal, in order to make North Slope crude or other crude available to the Northern Tier States.

**Mr. MELCHER.** To the exclusion of Northern Tier pipeline proposal?

**Mr. WITTEN.** That is the first assumption. If we only talk about Sohio compared to Trans-Mountain, then I believe we would continue to support Trans-Mountain.

As I said, if Northern Tier were built and in place, then there likely would be no need for the Trans-Mountain project and we probably would not support it.

However, we feel in this day of uncertainty, as has been pointed out here today with the Northern Tier project, that it may not be built for any number of reasons.

In that light then we feel it is important that the Trans-Mountain project be kept open as an option that can be brought into play, if it is needed, to satisfy a need that can't be satisfied otherwise.



Senator MELCHER. What you have almost said is something that I believe Mr. Anderson and Mr. Kieschnick expressed fairly and squarely to me. That with assurance that Northern Tier could be built there would be no need for Trans-Mountain, that all needs would be served for the Northern States, would be a better solution, a better long-term solution.

Mr. WITTEN. Certainly, if Northern Tier was there and would satisfy those needs that we have talked about, we couldn't quarrel with that. I think the only question we would have in our interest in keeping the Trans-Mountain project option open is how competent are those assurances that it will in fact be built.

Senator MELCHER. Well, ARCO, as I understand Mr. Anderson and Mr. Kieschnick, is entirely behind the belief that private industry should nourish in this country, and that there is a place for independent operators, in this case an independent pipeline operations, and therefore Northern Tier is not to be discouraged by regulations, but to be helped along through the maze of regulations.

I think you would agree with that.

Mr. WITTEN. Right. And I think our testimony in support of the bill, we do support it again, I believe the value of that support weighs far more in favor of the Northern Tier and Sohio project than it does the Trans-Mountain project.

Senator MELCHER. I gather that inference from your testimony, but I am glad to have you state it clearly for the record.

There is a great deal of uncertainty of this proposal to reverse Trans-Mountain. I wouldn't want to interpret your remarks as being otherwise, because there is the uncertainty, first of all, of what the Canadian official will recommend on the marine environment in Puget Sound.

There is an uncertainty on whether or not the Corps of Engineers isn't going to have to go into the full-scale consideration of the NEPA Act, on the environmental impact statement, which, while they wouldn't be trying to avoid it, they are just reviewing to see how much full-scale has to be.

Mr. WITTEN. Right.

Senator MELCHER. And there is an uncertainty over the control of the State law of Washington, which says you won't use any tanker larger than 125,000 deadweight tons. That is a great deal of uncertainty, is it not?

Mr. WITTEN. Yes; we feel at least with some of the positive things, with the pipeline in place, and needing some far less new facilities, that there are some positive things that can be relied upon, that changes the degree of uncertainty.

Certainly the factors you point out cause uncertainty as to whether the project can be counted on. As to the statement earlier, I don't think we can give a positive assurance that the project will be permitted but that uncertainty is shared by every project that we deal with today in this complex situation. So there again we feel that here is a reliable—here is an option that needs to be kept open, one that we are willing to work on. We are willing to try and define those uncertainties, to clarify them and get them removed if possible, to keep that option available to satisfy the need if there is no other solution.

Senator MELCHER. You mentioned in your testimony that another birth at Cherry Point is a key part of the reversal Trans-Mountain.

Mr. WITTEN. Right.

Senator MELCHER. If you do not get another birth at Cherry Point, have you any interest in reversing Trans-Mountain?

Mr. WITTEN. No.

Senator MELCHER. That is a fair enough statement.

Thank you very much.

[The attachment referred to follows:]

## Trans Mountain Pipe Line Project

## APPENDIX A



America's West Coast states will face an interesting dilemma this fall. While world leaders call upon their constituents to protect dwindling energy supplies, West Coast U.S. refineries will find themselves overloaded, however temporarily, with crude oil from Alaska's North Slope. The long-awaited start-up of production from the Prudhoe Bay oil field is just around the bend, and tankers will start delivering supplies to the Lower 48 early this fall.

At the same time, the Canadian government is facing up to a different problem: dwindling domestic petroleum reserves coupled with rising domestic consumption. The resulting supply squeeze has forced Canada, long a major supplier of foreign crude to the United States, to limit exports drastically and eliminate them completely in the near future. Canada's action is necessary, to be sure, but it poses a critical problem for refineries in the Northern Tier states, who have depended almost exclusively on Canada for their feedstock. Now they must look elsewhere.

A feast in one area, a famine in the other—and only a few hundred miles apart.

Obviously, the solution is to meet Northern Tier demand with West Coast surplus by shipping Alaskan crude through pipelines already linking the two areas. That is a no-brainer in the Trans-

**Mountain Pipe Line Project, a joint effort of Atlantic Richfield Company in the United States and Trans Mountain Pipe Line Company Ltd. in Canada. In this brochure, we discuss the why and how.**

**All of our problems should be solved so easily.**

**Thornton F. Bradshaw  
Atlantic Richfield Company**

**Kenneth L. Hall  
Trans Mountain Pipe Line Company Ltd.**



Forest and rivers emphasize the natural beauty of the  
Trans Mountain Pipeline right-of-way.



### The Need

The long-awaited Trans Alaska pipeline will begin operation in mid-1977 with an initial capacity of 600,000 barrels of oil per day. The first tanker shipments are expected to arrive on the West Coast in August. In late 1977, daily through-put will increase to 1.2 million barrels of oil.

The arrival of North Slope crude oil comes at a time when America urgently needs new supplies of domestic crude oil, but it also poses a problem unique in this time of energy deficiency.

When the Trans Alaska project began shortly after the confirmation well was drilled at Prudhoe Bay in July, 1968, it was thought that most of the oil would be consumed in the crude-deficient West Coast area. Several events have changed that projected crude oil supply-demand outlook.

The most dramatic of these changes occurred in late 1973 when the Arab nations placed an embargo on their oil exports, and announced the first in a continuing series of price increases. Then in 1976, Congress authorized production from the Elk Hills Naval Petroleum Reserve in California.

As a result, West Coast demand has not grown at the anticipated rate and production has increased slightly. Now, with North Slope oil coming to the Lower 48, a surplus is projected for the area. This surplus should reach some 400,000 to 500,000 barrels daily by 1978. Although its duration is not yet known, some industry people believe excess supplies will begin to diminish on the West Coast in a few years, and disappear entirely in the early 1980s unless additional discoveries are made.

Meanwhile, across the United States, demand continues to increase as daily production from reserves in the contiguous states declines. The country now imports 40 percent of its petroleum supply. Likewise, Canada is facing decreasing domestic oil reserves and is now a net importer of oil. In 1974, Canada began gradually reducing its oil exports, and has announced a final cutoff date of 1981.

Many refineries in the north central and northwestern United States (Michigan, Minnesota, Wisconsin, North Dakota and Montana), are heavily dependent upon Canadian crude oil, and will experience severe shortages in the very near future. Exchange agreements between Canadian and U.S. refineries, if approved, could supply their needs temporarily.

The United States Congress is concerned about this situation. Included in the Trans Alaska Pipeline Authorization Act, passed in 1973, is a requirement that Alaskan crude be equitably shared by all sections of the United States. A subsequent Alaskan Natural Gas Transportation Act, passed in 1976, requires that special attention be given to the crude oil needs of the Northern Tier states.

This, then, is the need: to get Alaskan and other offshore (tanker-transported) oil from the West Coast of the U.S., where a surplus is projected, eastward to states where there is a coming shortage.

Rolling farmland along the Trans Mountain  
Pipe Line right-of-way

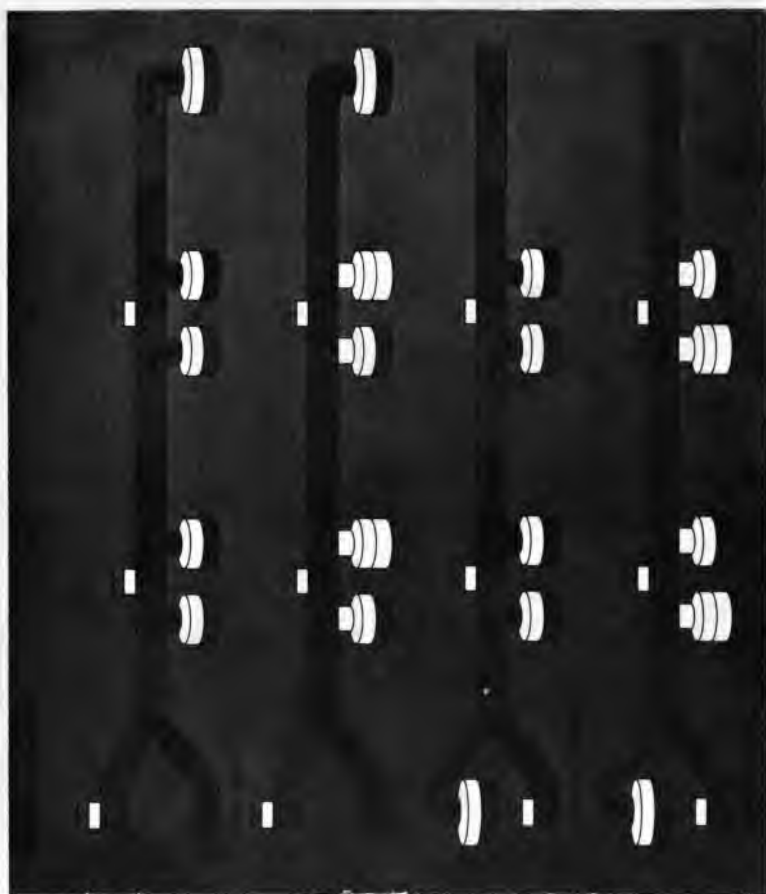




<b>Trans Mountain Pipe Line Project</b>	<p>The project has two distinct phases:  <b>Phase I</b>—Alternating Reversal  <b>Phase II</b>—Complete Reversal</p>	<p><b>Operations.</b> All critical functions of the operation will be remotely monitored and controlled.</p>
<p>The Trans Mountain Pipe Line Project involves the use of an existing pipeline which runs 718 miles from Edmonton, Alberta, Canada, to Vancouver, B.C. From Sumas Station at Mile 670, a 74-mile line serves the Puget Sound area. This pipeline system presently is operating at approximately one-third capacity; the idle capacity was used to move Canadian oil to refineries in Washington state.</p>	<p>Phase I would require scheduled reversal of the Trans Mountain line to transport 180,000 to 200,000 barrels a day of Alaskan or other offshore crude from Cherry Point to Edmonton for delivery to Northern Tier and Midwest States. Additionally, project facilities would be equipped to deliver crude to other Puget Sound refineries.</p>	<p>Implementation of Phase I will require the following installations in Canada:  <b>Pumping stations.</b> Twelve new stations will be added to the 16 existing stations.  <b>Storage tanks.</b> At eight pumping station locations, storage tanks with a total capacity of 3.5 million barrels.</p>
<p>The project takes advantage of this idle two-thirds capacity. It would reverse the flow of oil from west to east to move Alaskan and other tanker-borne crudes from Puget Sound to Edmonton, and on to Northern Tier states through the interprovincial and other pipeline systems.</p>	<p>Implementation of Phase I will require the following installations at Cherry Point:  <b>New ship berth</b> to accommodate tankers of no more than 200,000 DWT (dead weight tons). A new 900-foot arm off the existing trestle would be built to support piping and vehicle traffic.</p>	<p>Phase II of the proposed project could be implemented should the crude oil supply-demand situation warrant, and an exchange worked out to supply Vancouver refineries with tanker-transported oil. This would involve the complete reversal of the Trans Mountain Pipe Line, with the Vancouver refineries receiving their low-sulfur oil from sources other than Alberta.</p>
<p>Crude brought by tanker from Alaska and other sources would be transported from an expanded dock facility at Atlantic Richfield Company's Cherry Point Refinery on Puget Sound, eastward through Trans Mountain Pipe Line. Construction of a second berth at Cherry Point's deep water dock site would be required, which also could serve as a common port for delivery of crude oil to Mobil, Shell and Texaco refineries on Puget Sound through the existing pipeline system.</p>	<p><b>Tank farm.</b> Seven or more steel tanks of about 500,000 barrels capacity each.  <b>Pumping station.</b> A 6,000-horsepower station capable of making simultaneous deliveries to the Northern Tier states and to other Puget Sound refineries.  <b>Pipeline.</b> Seventeen miles of buried pipeline will connect new and existing facilities.</p>	<p>Some 130,000 barrels a day of low-sulfur crude would be pumped north and west to Vancouver from the Cherry Point tanker terminal. At the same time, approximately 350,000 barrels a day of Alaskan and offshore crude would be pipelined to Edmonton from Cherry Point through the now one-way Trans Mountain line.</p>



<p>During Phase II, crude sent from Cherry Point to Vancouver could be exchanged for the low-sulfur crude currently moving from Alberta to Vancouver. The "backed-out" Canadian crude could then move eastward to Canadian refineries, and to U.S. refineries on a barrel-for-barrel exchange basis.</p> <p>Costs for Phase II expansion would be relatively low, since the only new construction required would be a 38-mile pipeline from Cherry Point to a Trans Mountain pump station just north of the border.</p>	<p><b>How Much Will It Cost?</b></p> <p>The total capital cost of the alternating flow plan (Phase I) is estimated at \$140 million. \$50 million of which would be spent in Washington state.</p> <p>Though capital costs for the initial phase are substantial, they are only one-fourth the lowest cost alternative proposal. Due to the uncertainty of the size and duration of a West Coast crude surplus, it makes good economic sense to add to facilities already in place. They are flexible enough to accommodate further growth, and it would not require enormous capital expenditures to build facilities from the ground-up.</p>	<p><b>Displacement East</b></p> <p>Pumps start moving the east-bound oil into the pipeline. At the same time, other pumps at eight locations along the length of the line start pumping Alaska oil from temporary storage tanks where it has been placed previously. The Alaska oil pushes the Alberta oil out of the line and into other tanks at these same eight locations. In this way, the whole pipeline fill is changed to east-bound oil.</p>
<p><b>How Long Will It Take?</b></p> <p>Because it makes use of existing pipeline systems, the first phase of the project could be in operation by early 1979 assuming permits are received by the end of 1977. This is at least one year earlier than any other project proposed to supply Northern Tier states could be completed.</p> <p>Thus, this plan satisfies the critical needs of the Northern Tier states for crude oil, while buying time to study the long-term effects of the West Coast oil surplus and its distribution.</p> <p>Phase II could be ready to go in 1979. Expansion of Phase II to a maximum capacity could be completed by 1981.</p>	<p><b>Alternating Reversal</b></p> <p>The alternating reversal of Trans Mountain Pipe Line is necessary, at least initially, because Vancouver refineries can handle only the low-sulfur crude which they receive via Trans Mountain from Alberta.</p> <p>The reversal plan works this way: Assume we have just finished delivering two weeks' supply of oil to Vancouver. The first step is to sidetrack the Alberta oil still left in the pipeline into storage tanks to make way for eastbound oil.</p>	<p><b>Pumping East</b></p> <p>This line displacement process requires about 20 hours of pumping. With the line clear, the eastbound oil flows into Edmonton at full rate for seven days. Then it is time once more to reverse the pipeline.</p>



### Displacement West

Pumps at Edmonton and other storage points move the Vancouver-bound oil out of tanks back into the line, pushing the eastbound oil out of each section into temporary sidetrack tanks. This again requires 20 hours.

### Pumping West

Then for five days the Alberta oil pours into Vancouver, building up another two weeks' supply.

Alternating reversal will enable the pipeline to operate more efficiently than its present one-third capacity operation. Time lost in sidetracking does create some inefficiency when compared with full capacity one-way flow, but benefits from the Trans Mountain proposal far outweigh the minor inefficiency caused by the alternating flow process.

### What Permits are Required?

Prior to construction of additional facilities at Cherry Point, approval must be secured from the Energy Facility Site Evaluation Council (EFSEC) of Washington state—a 16-member board composed of representatives from various state agencies, the county and port district. The Council will make a recommendation to the Governor, who has final authority.

### Protecting our Environment

It stands to reason that using existing pipelines and rights-of-way to move oil to the Northern Tier states would minimize any environmental disruption. New rights-of-way need not be established: rural countryside need not be disturbed to lay new pipe.

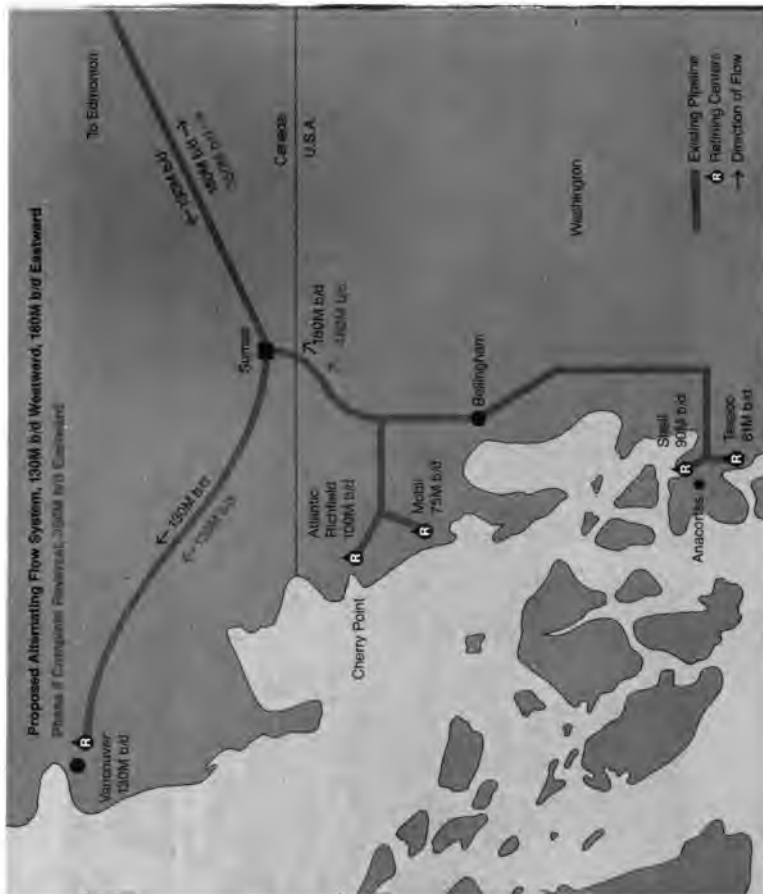
To implement the first phase of the Project, minimal construction would be needed: a new ship berth at Cherry Point, and in Washington and Canada, seven-million barrels of storage, 13 pumping stations and 17 miles of new pipeline in existing rights-of-way.

Operations and facilities will be designed with the environment always in mind. A complete Environmental Impact Study is now being conducted for the Project. It will determine the possible effect of potential oil spills, air and water pollution on area marine and terrestrial wildlife.

The U.S. Army Corps of Engineers must determine whether to issue a permit for the new dock that the Project requires. Other state and local agencies will have an opportunity to comment on the project during review of the Environmental Impact Statement and at subsequent points in the permit process.

Supporters of alternative proposals have pointed out that a policy statement inserted in Washington's Coastal Zone Management Plan by former Governor Dan Evans selects Port Angeles as the sole terminal site for Puget Sound. If this position were upheld, it would prevent expansion of the Atlantic Richfield Cherry Point dock. Atlantic Richfield Company, however, disputes the legality, as well as the wisdom, of this policy statement.

In Canada, the National Energy Board must issue a Certificate of Public Convenience and Necessity for construction on land. A special commission headed by Dr. Andrew Thompson will review the marine aspects of the proposal for its social, environmental and safety effects. Both agencies will hold public hearings and make recommendations based on their findings to the Canadian Government, which has final authority.





**Increased tanker traffic.** Some are predicting that greater number of tankers bringing oil into Puget Sound would increase the risks of accidents. They envisioned "superport" with hundreds of tankers plying the waters of Puget Sound at the same time. This is not true. The Project's Cherry Point facilities could serve as a common port for tankers up to 200,000 DWT for the Mobil, Shell and Texaco refineries on the Sound. At least in the first phase, then, tanker traffic in the Sound could decrease.

In 1976, for example, there were 21 crude tanker calls per month in Puget Sound. During the initial phase of the Trans Mountain Project this number could drop to 9.3 calls per month. Even the seismeres do not take advantage of the new berth immediately; the increase in tanker traffic is only one every 4.5 days.

(Under present Washington State law, tankers of more than 125,000 DWT are not permitted in Puget Sound. Larger tankers up to 200,000 DWT were allowed monthly crude tanker calls could decline to 13.0 calls per month during Phase II. But would fewer of the larger tankers be safer? Most experts think so. The U.S. Coast Guard Vessel Traffic Center in Seattle has indicated it could give larger tankers more individual attention, so, the risk of accidents could be further reduced.)

**Puget Sound—Monthly Tanker Calls  
125 DWT Vessels**

	Present	After Trans Mt. Alternating	200k DWT Revised
ARCO	7	3.4	3.4
Shell	7	3.4	3.4
Texaco	4	2.6	2.6
Mobil	5	2.6	2.6
Trans Mountain	—	6.9	13.2
<b>Total</b>	<b>21</b>	<b>19.3</b>	<b>27.6</b>

**Puget Sound—Monthly Tanker Calls  
200 DWT Vessels**

	Present	After Trans Mt. Alternating	200k DWT Revised
ARCO	5	3.8*	3.8*
Shell	7	2.0	2.0
Texaco	4	1.5	1.5
Mobil	5	1.6	1.6
Trans Mountain	—	4.1	9.0
<b>Total</b>	<b>21</b>	<b>13.0</b>	<b>17.9</b>

\*125 DWT vessels

At present, a mandatory vessel traffic control system administered by the U.S. Coast Guard is in effect in the Sound. This system prescribes that ships stay within particular lanes and follow certain navigational rules. Although there is now only a voluntary system in the Straits of Juan de Fuca off Puget Sound, Trans Mountain Project proponents support making this system mandatory for Juan de Fuca as well.

**Air pollution at Cherry Point.** Would the new facilities near the refinery affect air quality in the area? This question is being studied in detail.

The Cherry Point Refinery, on stream since 1972, is Atlantic Richfield's newest refinery. Almost \$1 million in air and water conservation equipment was included in its construction. Air quality is continually monitored on the refinery grounds. The facility has one of the most modern desulfurization systems available, removing about 97 percent of the sulfur in crude oil. This is converted into pure sulfur and sold to other industries.

All new storage tanks will be equipped with up-to-date pollution control features. This includes double seals on floating roof tanks and dikes around the tanks to contain any oil spills.

Possible air pollution from tankers, however, does need to be determined. A report issued by the U.S. Environmental Protection Agency to the Federal Energy Administration suggests that emissions of sulfur dioxide, hydrocarbons and nitrogen oxides from tankers must be addressed in the Environmental Impact Statement.



Marine facilities at Cherry Point, where oil is transferred from ship to shore.



<p>The impact of project tanker emissions on air quality will be studied and findings reported in the Environmental Impact Statement. State and Federal agencies will determine if the increase is within standards, or if additional limits on certain operations need be imposed.</p>	<p>The Pacific Northwest from Puget Sound to Vancouver and Edmonton is a land of clean air and scenic wonders. The Trans-Mountain Pipe Line Project sponsors intend to help keep it that way, as they have for more than 25 years.</p>	<p>Use of a central port facility at Cherry Point to serve other Puget Sound refineries, thereby decreasing tanker traffic. The plan would take advantage of a prime location: Puget Sound is the only natural deep water port on the West Coast.</p>
<p><b>Water Pollution.</b> The Project will take every precaution to insure that the loading and unloading of oil to and from tankers will be safe and clean. To move the oil off tankers, special mechanical steel loading arms will reduce the possibility of a spill. The arms have valves with quick shut-off capability in case of emergencies. The offloading area will be curbed to retain any spills that might occur on the dock in disconnecting the arms from the tanker. Protective floating booms to contain any spills will be placed in the water around tankers during offloading.</p>	<p><b>Meeting the Need</b></p> <p>We can summarize the advantages of the Trans Mountain Pipe Line Project:</p> <p>A relatively short start-up time to meet the critical crude oil needs of the Northern Tier refineries. The project could be in operation by early 1979, thereby forestalling possible economic disruption.</p> <p>Lower initial capital investment; the first phase could be implemented at a cost of \$140 million, considerably less than the other proposed projects.</p> <p>Less environmental disruption than a grass roots project. Most of the pipeline already is in place and in operation.</p> <p>A cost-effective means of transporting varying amounts of oil. The project starts small, but it's flexible and capable of considerable expansion.</p>	<p>Adequate energy supplies to Washington state. The plan would furnish new sources of crude oil to Northern Tier refineries which, in turn, furnish eastern Washington with refined petroleum products.</p> <p>By using existing sites and facilities described in this proposal, the Trans Mountain Pipe Line Project can be developed and placed in operation sooner, at lower construction costs, and with considerably less environmental impact than a brand new system built for the same purpose.</p>
<p><b>Conclusion.</b> It is evident that any method of transporting oil from one area to another will have some effect on the environment; it would be unreasonable to pretend otherwise. But the Trans Mountain Project, through use of tested systems already in place, would minimize adverse impact to earth, water and air quality.</p>		<p>For Americans, it helps provide equitable energy distribution, and helps keep consumer product costs down. For Canadians, it provides flexible supply for Canadian refineries, and a proven business is sustained at reasonable profit levels.</p>

Tank farm at the Cherry Point Refinery, close to the marine facility offshore.



Atlantic Richfield's four U.S. refineries have a combined throughput of 772,000 barrels a day, and markets products in 28 states and several foreign countries, principally Brazil.

Trans Mountain Pipe Line Company Ltd., owns and operates the pipeline system described elsewhere in this booklet. It also operates a facility on Burrard Inlet for loading crude oil and refrigerated propane for export. With Enterprises of British Columbia Ltd., it owns a pipeline for jet fuel in the Vancouver area.

During 1976, the company achieved revenues of more than \$37 million and delivered 220,200 barrels of oil and products per day. Deliveries were 26 percent lower than in 1975, because of the reduction in Canadian exports to Washington State.

At the present time, two major pipelines carrying Canadian hydrocarbons to markets in Canada go through the United States. These two lines carry most of the oil consumed in eastern Canada, and are covered by the terms of the agreement.

#### **The Companies behind the Plan**

Both Atlantic Richfield Company and the Trans Mountain Pipe Line Company Ltd. offer many years of technical and business expertise in the petroleum and pipeline industries.

Atlantic Richfield Company is a major integrated petroleum company, with interests in coal, petrochemicals and non-ferrous metals.

With holdings in all major U.S. producing areas, including Prudhoe Bay, Alaska, the Company produces 363,000 barrels a day of crude oil and natural gas liquids. The Prudhoe Bay field, when it comes on stream later this year, will add 244,000 barrels a day to the Company's domestic production. Over-seas production, primarily from Indonesia, the North Sea and the Persian Gulf, adds 148,000 barrels a day.

Most important, the proposal allows more time for further assessment of the two countries' long-term oil supply and transportation needs.

#### **Call for Cooperation**

The success of the Trans Mountain Pipe Line proposal rests on continued friendly relations between the United States and Canada. There can be no reasonable doubt that long-established good neighbor policies can work to the mutual benefit of people in both countries.

In January 1977, the U.S. and Canadian Governments signed a Transit Pipeline Agreement. The reciprocal agreement applies to all existing and future pipelines for oil and gas passing through the United States and Canada. It prohibits interference by any governmental authority with the flow of hydrocarbons in transit pipelines.

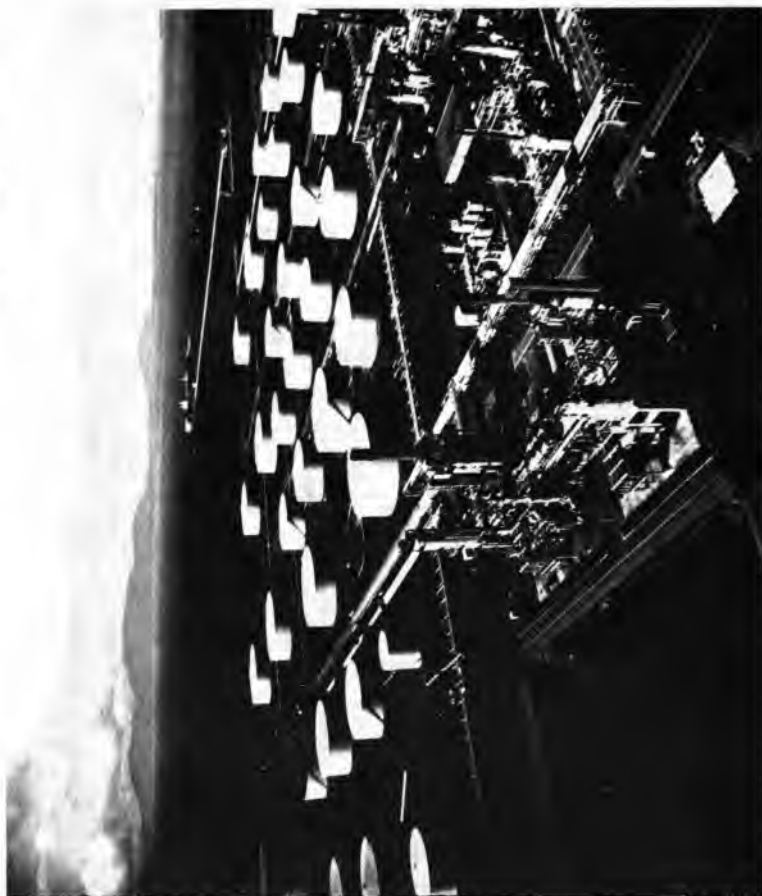
The agreement provides a formal basis for U.S.-Canadian cooperation on energy transportation systems advantageous to both countries. President Carter has approved the agreement, which is expected to be ratified soon by the U.S. Senate and the Canadian Parliament.

Marine facilities at Cherry Point, where oil is transferred from ship to shore.



<p>The impact of project tanker emissions on air quality will be studied and findings reported in the Environmental Impact Statement. State and Federal agencies will determine if the increase is within standards, or if additional limits on certain operations need be imposed.</p>	<p>The Pacific Northwest from Puget Sound to Vancouver and Edmonton is a land of clean air and scenic wonders. The Trans-Mountain Pipe Line Project sponsors intend to help keep it that way, as they have for more than 25 years.</p>	<p>Use of a central port facility at Cherry Point to serve other Puget Sound refineries, thereby decreasing tanker traffic. The plan would take advantage of a prime location: Puget Sound is the only natural deep water port on the West Coast.</p>
<p><b>Water Pollution.</b> The Project will take every precaution to insure that the loading and unloading of oil to and from tankers will be safe and clean. To move the oil tankers, special mechanical steel loading arms will reduce the possibility of a spill. The arms have valves with quick shut-off capability in case of emergencies. The offloading area will be curbed to retain any spills that might occur on the dock in disconnecting the arms from the tanker. Protective floating booms to contain any spills will be placed in the water around tankers during offloading.</p>	<p><b>Meeting the Need</b></p> <p>We can summarize the advantages of the Trans Mountain Pipe Line project:</p> <p>A relatively short start-up time to meet the critical crude oil needs of the Northern Tier refineries. The project could be in operation by early 1979, thereby forestalling possible economic disruption.</p> <p>Lower initial capital investment: the first phase could be implemented at a cost of \$140 million, considerably less than the other proposed projects.</p> <p>Less environmental disruption than a grass roots project. Most of the pipeline already is in place and in operation.</p> <p>A cost-effective means of transporting varying amounts of oil. The project starts small, but it's flexible and capable of considerable expansion.</p>	<p>Adequate energy supplies to Washington state. The plan would furnish new sources of crude oil to Northern Tier refineries which, in turn, furnish eastern Washington with refined petroleum products.</p> <p>By using existing sites and facilities described in this proposal, the Trans Mountain Pipe Line Project can be developed and placed in operation sooner, at lower construction costs, and with considerably less environmental impact than a brand new system built for the same purpose.</p>
<p><b>Conclusion.</b> It is evident that any method of transporting oil from one area to another will have some effect on the environment; it would be unreasonable to pretend otherwise. But the Trans Mountain Project, through use of tested systems already in place, would minimize adverse impact to earth, water and air quality.</p>		<p>For Americans, it helps provide equitable energy distribution, and helps keep consumer product costs down. For Canadians, it provides flexible supply for Canadian refineries, and a proven business is sustained at reasonable profit levels.</p>

Take turn at the Cherry Point Refinery, close to  
the main facility offshore.



Most important, the proposal allows more time for further assessment of the two countries' long-term oil supply and transportation needs.

#### Call for Cooperation

The success of the Trans Mountain Pipe Line proposal rests on continued friendly relations between the United States and Canada. There can be no reasonable doubt that long-established good neighbor policies can work to the mutual benefit of people in both countries.

In January 1977, the U.S. and Canadian Governments signed a Transit Pipeline Agreement. The reciprocal agreement applies to all existing and future pipelines for oil and gas passing through the United States and Canada. It prohibits interference by any governmental authority with the flow of hydrocarbons in transit pipelines.

The agreement provides a formal basis for U.S.-Canadian cooperation on energy transportation systems advantageous to both countries. President Carter has approved the agreement, which is expected to be ratified soon by the U.S. Senate and the Canadian Parliament.

At the present time, two major pipelines carrying Canadian hydrocarbons to markets in Canada go through the United States. These two lines carry most of the oil consumed in eastern Canada, and are covered by the terms of the agreement.

#### The Companies behind the Plan

Both Atlantic Richfield Company and the Trans Mountain Pipe Line Company Ltd. offer many years of technical and business expertise in the petroleum and pipeline industries.

Atlantic Richfield Company is a major integrated petroleum company, with interests in coal, petrochemicals and non-ferrous metals.

With holdings in all major U.S. producing areas, including Prudhoe Bay, Alaska, the Company produces 363,000 barrels a day of crude oil and natural gas liquids. The Prudhoe Bay field, when it comes on stream later this year, will add 244,000 barrels a day to the Company's domestic production. Over-seas production, primarily from Indonesia, the North Sea and the Persian Gulf, adds 148,000 barrels a day.

Atlantic Richfield's four U.S. refineries have a combined throughput of 772,000 barrels a day, and markets products in 28 states and several foreign countries, principally Brazil.

Trans Mountain Pipe Line Company Ltd., owns and operates the pipeline system described elsewhere in this booklet. It also operates a facility on Burrard Inlet for loading crude oil and refrigerated propane for export. With subsidiary, Trans Mountain Enterprises of British Columbia Ltd., it owns a pipeline for jet fuel in the Vancouver area.

During 1976, the company achieved revenues of more than \$37 million and delivered 220,200 barrels of oil and products per day. Deliveries were 26 percent lower than in 1975, because of the reduction in Canadian exports to Washington State.



Farms dot the countryside along the right-of-way  
of the Trans Mountain Pipe Line.



Senator MELCHER. Fred Garibaldi, president, Sohio Transportation Co., Standard Oil of Illinois.

**STATEMENT OF FRED G. GARIBALDI, PRESIDENT, SOHIO  
TRANSPORTATION CO., STANDARD OIL CO. OF OHIO**

Mr. GARIBALDI. Mr. Chairman, I have submitted a full statement to the committee.

My name is Fred G. Garibaldi, project manager for the Long Beach, Calif., to Midland, Tex. pipeline proposed by the Standard Oil Company of Ohio. It is a pleasure to appear before this committee today and to speak in support of Senate bill 1868, the proposed National Crude Oil Supply and Transportation Act of 1977, as amended on September 9, 1977, by amendment 842. The bill contains provisions which we believe could be of major importance in allowing the earliest possible development of a needed west to east crude oil transportation link. Before commenting further on this legislation, however, it might be helpful to briefly review the project's development and its current status.

Senator MELCHER. I want to make this clear. The amendment offered in the Senate and printed in the record is referred to the committees that have jurisdiction over the bill. It is in no way anything more than that, as an amendment that is offered for consideration of the committee. It may or may not be accepted or it might be changed in any way the committee sees fit.

Mr. GARIBALDI. Mr. Chairman, I wanted to make this point and I will bring this up later in my statement, we could not support the bill as proposed without the amendment but do support the bill with the amendment.

Senator MELCHER. I trust your statement is going to go into the various points on that, some of which have been raised already by the Department of the Interior. So it is very apt that you do so.

Mr. GARIBALDI. OK. This bill as amended contains provisions which we believe could be of major importance in allowing the earliest possible development of a needed west to east crude oil transportation link. Before commenting further on this legislation, however, it might be helpful to briefly review the project's development and its current status.

In 1972 and early in 1973, while the Trans-Alaska pipeline was still in its planning stages, Sohio conducted a study of the projected west coast crude oil supply/demand situation and concluded, as a result of that study, that the entire North Slope crude oil production could be absorbed in the west coast market. This conclusion was based on a projection of continued increases in demand for petroleum products coupled with a continued decrease in local crude oil production which had begun in 1970. In addition to this, the more favorable refinery economics which existed in the early seventies had led many large west coast refineries to plan modifications to their facilities to permit a greater use of sour, high sulfur, crude oil of quality similar to that produced on Alaska's North Slope. These factors indicated that by 1978 the demand for North Slope crude would allow the entire production of 1.2 million barrels per day to be absorbed on the west coast and,

in fact as demand continued to grow in future years, even higher levels of North Slope production could be utilized.

The Arab oil embargo and the resulting higher petroleum prices in late 1973 and early 1974 drastically altered the supply/demand picture developed in our previous studies. Nationwide conservation efforts and a severe economic recession, aggravated by the embargo, virtually eliminated any growth in petroleum demand in the 3 years that followed.

On the supply side, the oil industry was attempting to find new domestic crude oil reserves and Congress authorized production from the Elk Hills Naval Petroleum Reserves. Also, large increases in the cost of refinery construction, coupled with Federal controls on refining margins prompted the abandonment of many of the previously planned refinery modifications.

In early 1974, Sohio completed its initial examination of the probable impact of these factors and concluded that when production of North Slope crude oil reached 1.2 million barrels per day a large surplus would exist on the west coast. At that time Sohio undertook a study of some eight major alternative routings to move this surplus inland. After thoroughly evaluating environmental, economic, engineering, and timing considerations, Sohio selected a pipeline route across the southwestern United States.

The selected route required a deepwater terminal in the already established Long Beach Harbor, made use of 800 miles of existing, but unneeded natural gas pipeline, and would tie in with the major U.S. crude oil distribution network near Midland, Tex. We recognized that existing crude oil lines run north, east, and south from Midland providing direct access to approximately 65 percent of the Nation's total refinery capacity and to 80 percent of the refinery capacity east of the Rockies, as well as to strategic crude oil storage on the gulf coast. The initial capacity of this system would be 500,000 barrels per day with expansion to 1 million barrels per day possible through use of a second natural gas line which parallels the first.

Production and transportation of North Slope crude oil is currently expected to reach the level of 1.2 million barrels per day in March 1978. Our studies indicate that, at that time, the surplus of domestic crude oil on the west coast will reach a level of 300,000 to 600,000 barrels per day. It is important to note, however, that this surplus of domestic crude is localized; while there will be a surplus on the west coast, most other parts of the country are and will continue to be crude deficient and heavily dependent on foreign imports.

This distribution system will provide a needed link from the west coast to the rest of the country, permitting the distribution of this surplus in the most economical manner to those parts of the country which need it most. Without such a system, and barring any exchanges of Alaskan crude oil with foreign countries, the only way to maintain North Slope production is to move the excess crude oil through the Panama Canal.

Even today, at a North Slope production rate only slightly in excess of 700,000 barrels per day, shipments of some of Sohio's share of this production are already beginning to move through the canal. Movement of this crude through the canal requires transfer of the cargo from the large tankers arriving from Valdez into smaller tankers capable

of passing through the canal. Such a system, while adequate on a short-term basis, does not, in our opinion, represent an acceptable long-range method of transporting crude inland due to higher costs, greater spill potential, and less security than is offered by the proposed Long Beach pipeline.

As you are aware, there are other major pipeline projects being proposed to solve other district crude oil distribution problems. The refiners in the Northern Tier States are being faced with a phased curtailment of Canadian crude oil on which they are heavily dependent for feedstock. Most of this Canadian crude is of a different quality than Alaskan oil.

It is light and low in sulfur content and, for the most part, must be replaced with crude oil of similar quality due to physical processing limitations of the refineries. Because of the limited capacity of these refineries to process heavy, high sulfur crude, such as Alaskan oil, the Northern Tier Pipeline has been proposed primarily for importation of light, low sulfur crude oil into Washington State for shipment to these Northern Tier refiners.

Our studies indicate that those refineries located along the route of this pipeline could use up to 150,000 to 200,000 barrels per day of Alaskan oil. Therefore, unless those refineries are modified, Alaskan oil entering the Northern Tier in excess of this amount would have to go to Chicago or further east before it could be refined.

On the other hand, the Long Beach to Midland project is designed to move the Alaskan crude surplus to refineries east of California which can refine this quality crude. Therefore, we do not view the Northern Tier and the Long Beach pipeline proposals as being in conflict with each other. In fact, we feel that completion of the Northern Tier line within a year or two after completion of the Long Beach line may delay or even preclude the need for future expansion of the Southern system.

Convinced of both the national need for a west to east pipeline system and the advantages of the Long Beach proposal, Sohio, in mid-1975, proceeded to file applications with the Bureau of Land Management and the FPC. At that time we also began working closely with the involved governmental agencies. Currently both the Federal environmental impact statement and the State of California environmental impact statement have been approved. All of the major permits have been applied for. Through July of this year, Sohio has spent over \$35 million selecting and preparing to build this project.

There are two major issues which still need to be resolved before approval for construction can be granted. The first issue concerns the conversion of a natural gas pipeline from gas to crude oil service. A ruling on the issue of abandoning this line by the FPC is expected by mid-October. Sohio anticipates this ruling will be favorable. The pipeline is one of six major lines running from Texas to California, the total capacity of which is not needed to handle the amount of gas expected to be available.

The second major issue, and the real key to obtaining approval for this project involves environmental considerations. The California Air Resources Board has expressed concern about the impact of the Sohio project on the air quality in the Los Angeles area. Sohio has

recognized this concern and we have committed ourselves to the use of "tradeoffs" to mitigate any adverse air quality impacts of this project. We have done a lot of work in this area and are convinced that the low level of emissions which will result from this project can be adequately offset. As of this time, however, we have not been successful in obtaining the approval of the State for all of the trade-offs which have been proposed.

We have now been struggling for over 2 years in an attempt to obtain the over 700 permits required to get this project underway. By way of comparison, once the permits are in hand, the entire project can be completed in 18 to 22 months. Unfortunately, these problems are not unique to the Long Beach project. Other pipeline proposals such as Northern Tier and, in fact, virtually any major construction project will be subject to similar delays—delays which can add years to many vitally needed projects in this country.

Your committee has under consideration S. 1868, the National Crude Oil Supply and Transportation Act of 1977, a bill whose purpose it is to resolve the west coast crude oil surplus by providing an expedited means for issuing all Federal approvals required for the construction, operation, and maintenance of transportation systems to move Alaskan crude oil to Northern Tier and other inland States.

In its original form, Sohio could not support this bill. Our concern was that this bill could have delayed Federal approval of the Long Beach project in spite of its intent to speed it up. The original bill required that the environmental impact statements for all proposed pipelines within the United States from the west coast to the Northern Tier and other inland States be completed and submitted to the Secretary of the Interior.

The Secretary, after reviewing all the statements, would then be required, no later than February 1, 1978, to make a decision on which system or systems should be approved. The Secretary and all Federal officers and agencies would then be authorized to issue the necessary Federal approvals for all projects approved by the Secretary. To wait for the final EIS for the Northern Tier pipeline would most certainly delay a final decision on the Long Beach project beyond that which would be necessary without the legislation. The Long Beach project is much further along in the permitting activities than any other proposal.

Sohio strongly supports the bill as amended on September 9 by amendment 842, however. This amended bill recognizes the independent nature of the Long Beach and Northern Tier pipeline proposals and acknowledges their different stages of development. It expedites each of them on a schedule reflective of each project's relative progress to date. Further, it requires that all necessary Federal permits, rights-of-way, leases, and other authorizations be issued within 30 days of the Secretary's decision to approve.

Finally, as I indicated in my opening remarks, this bill contains a most important provision. This project, as has generally been the case with all major projects over the past several years, has received a great deal of public attention. In addition, specific elements of the project are considered by some agencies to be beneficial while other agencies consider those same elements to be detrimental. As a conse-

quence of these varying viewpoints and the publicity which has accompanied the review of this project, the prospect of litigation following the issuance of permits must be considered a real one.

This bill contains an important provision which requires that if judicial review is necessary that such a review must take place in an expeditious fashion. Specifically, the bill requires that claims requiring judicial review be filed within 60 days following the Secretary's decision and that such a review will have the highest possible priority on the court's docket with a deadline for decision.

The provisions of this type of legislation are similar to those which were found to be necessary several years ago to permit construction of the Trans-Alaska Pipeline system which had been delayed for many years. It is unfortunate that such legislative actions are necessary in order to permit such vitally needed projects to proceed. However, experience over the past few years would indicate that such actions are, in fact, needed.

It is important to note that, while this legislation will provide a means for expediting the issuance of all necessary Federal permits for each project approved by the Secretary, it does not address the issue of State permitting. Any project requiring permits from State and local governments are therefore susceptible to delays that are beyond the authority of this legislation.

In the case of the Long Beach project, negotiations are continuing with the State of California on those issues which remain to be resolved. Intensive effort on the part of both Sohio and the State of California have resulted in final resolution of many of the major issues. Nevertheless, several key issues remain which must be promptly resolved to allow this project to proceed.

In summary, we feel that this bill, as amended by amendment 842, will serve to expedite Federal approval of the Long Beach project—a project which we firmly believe is in the best interest of this country and which should be allowed to proceed as quickly as possible. This completes my remarks and I will be happy to respond to any questions you may have.

Senator MELCHER. Mr. Garibaldi, I sat through and participated to a certain extent in House hearings in August called by Chairman Dingell as an oversight responsibility of the House, concerning a possibility of a glut of oil on the west coast, and one of the witnesses was Mr. Quinn from California, who has the responsibility, I guess, of reviewing permits under their Air Quality Act, that is the California Air Quality Act, regarding your application in the San Pedro-Long Beach area.

Now, it is my understanding from listening to Mr. Quinn that they felt they would be in a position to give either the blessing or the disapproval of the State of California for your application, under the Air Quality Act. What is the exact status of that now as nearly as you know?

Mr. GARIBALDI. As a matter of fact, there is a hearing today before the local air quality management district, who has jurisdiction, direct jurisdiction over the project, to try to determine precisely what procedures will be used in the remaining permit issues which are still involved. We are hopeful that those procedures will allow an early

authorization. It now appears, quite frankly, sometime in November—December is really about as realistic an early date as one can develop.

Because of those procedural delays which have occurred.

Senator MELCHER. Mr. O'Leary also appeared at that hearing, and he seemed to be saying that Federal permitting procedures for your proposal would be cleared by mid-October. Is that still the projected time?

Mr. GARIBALDI. Yes; it is my understanding that both the FPC and the Department of Interior will be prepared at that point to render a decision.

Senator MELCHER. Now, at that time will there be other Federal agencies still considering phases of the application?

Mr. GARIBALDI. I am not—those are the major decisions. There may be other Federal decisions which follow on, but certainly those are two major decisions and the major effort will certainly be in that area.

I don't know if there might be one or two other Federal permitting areas that wouldn't be completely cleared at that point.

Senator MELCHER. Let me assure you that the intent of the sponsors of S. 1868 was that there be no delay in the Federal procedures concerning Sohio's application. Any doubts that might have arisen from the drafting of S. 1868, as was echoed, they echoed doubts, Interior did today, has been cleared up by language contained in the amendment, that I offered for consideration of the jurisdiction over the bill.

However, another part of that proposed amendment goes a little different route in arriving—limitation on judicial review. Do you have a position on that aspect of it, as being a better route to follow than the limitation on judicial review that is in S. 1868 as introduced?

Mr. GARIBALDI. It would be hard to respond specifically to the plus or minuses of that. I know our staff has examined that and feel the way in the amendment is a clear determination of that issue. I can hardly respond beyond that. I am sorry, Mr. Chairman.

Senator MELCHER. Sohio along with British Petroleum, of course, has a majority interest in Alyeska, I assume, in the pipeline. Is that correct?

Mr. GARIBALDI. Sohio has a 33⅓ percent interest. British Petroleum has interest slightly in excess of 16 percent, I believe.

Senator MELCHER. So it is almost a majority between the two companies?

Mr. GARIBALDI. If you add Sohio's interest and British Petroleum, it is very close to 50 percent.

Senator MELCHER. Of the proven reserves on the North Slope, BP and Sohio own 50 percent or 52 or 53 percent, or thereabouts?

Mr. GARIBALDI. Sohio owns those reserves. I believe the number is 53 percent, owned by Sohio.

Senator MELCHER. Fifty-three percent. Now, what is the projection as to Alyeska's shipment of crude from the North Slope, in terms of say, let's go on to mid-1978, about 9 or 10 months from now, where do you think the figure will be for shipment through Alyeska, through Valdez?

Mr. GARIBALDI. My understanding of the latest estimate on the repair on pump station 8, which is basically what is holding up production at this point, that repair will be completed and operational in

March 1978, at which time the rate will be expected to be 1.2 million barrels per day.

Senator MELCHER. Is it Sohio's desire to increase beyond 1.2 million barrels per day?

Mr. GARIBALDI. I am not involved in that particular area of the future expansion of the Trans-Alaska Pipeline system. I do know there are several factors involved. One is experience on the field itself to determine what the maximum efficient rate will be. Obviously a very important factor in that decision to expand will be whether or not there is an adequate transportation system to move the expanded production from the North Slope to market.

Senator MELCHER. In other words, that will be a factor.

Mr. GARIBALDI. Absolutely.

Senator MELCHER. On what you do with it after you get it down to the lower 48.

Mr. GARIBALDI. Correct.

Senator MELCHER. At the present or projected rate of production from Elk Hills, and at the shipping point of 1.2 million barrels from the North Slope to Valdez, at that point what does Sohio believe will be the so-called surplus on the west coast?

Mr. GARIBALDI. Our estimates have been and continue to be in the range of 300,000 to 600,000 barrels per day of surplus at that point, with most of our inclinations being that the surplus would be at the higher end of that range.

Senator MELCHER. The highest end of that range.

Mr. GARIBALDI. Correct.

Senator MELCHER. So if at some point transportation through the Alyeska pipeline reached 1.6 million barrels, you could just add 400,000 barrels to that?

Mr. GARIBALDI. Depending upon the time and how much west coast demand increase had taken place between now and that point, offset by that amount.

Senator MELCHER. Yes. What would be your view of the shipment through the Sohio pipeline from San Pedro to Midland, if it were in operation?

Mr. GARIBALDI. If it were in operation and it was the only pipeline in operation to move the crude from west to east, we think that it would move the full 500,000 barrels per day through that system, which is the capacity of that system.

Senator MELCHER. And that is the capacity. I think somebody testified earlier that it might be 600,000 or 700,000 and that was a higher figure than I had ever heard before for that system. So a full capacity would be 500,000 barrels per day.

Mr. GARIBALDI. Yes.

Senator MELCHER. You mentioned that some of the oil that you own and ship through Alyeska pipeline is even at the rate of production and the rate of shipment now to the pipeline, 700,000 barrels a day, some of that oil is going through the canal, so you have had experience in what the costs are. Can you tell me what the added costs are to go through the canal, compared to delivering it to Long Beach?

Mr. GARIBALDI. That is a—I would be glad to submit something for the record for that. I can give some general statements. The complexi-



ties in that issue involve the fact that there are several different types of ships in the trade.

Whether or not we are talking about short-term incremental costs of moving oil through the Panama versus going through a pipeline or gearing up to do it long-term, so there are different answers involved depending upon how you view it.

For instance, at the low end of the range, the most attractive ships which are in that trade currently are ships which were built under subsidy, U.S.-flag ships built under subsidy that are now being used in that trade on a temporary basis, accompanied by a partial repayment of that subsidy. The use of those ships on an incremental basis through the canal only adds perhaps 20 or 25 cents a barrel to what the cost would be if you went through Long Beach to the Midland pipeline.

However, that is not a long-term option that is available, when you look at how that will happen long term, the cost increase would be higher than the figure I just quoted.

I would be glad to submit a discussion of that to you if you like.

Senator MELCHER. Is that answer predicated, Mr. Garibaldi, on just ending the oil at Midland in the one case and in the other case, having it delivered to Galveston, to Houston?

Mr. GARIBALDI. No. It is to Houston through both systems.

Senator MELCHER. Under available bonds you have now, the added cost is 25 cents a barrel?

Mr. GARIBALDI. That is the extreme low, based on incremental movement with the most attractive ships. I don't have the number available for average, nor is it reflective of what it costs to do it on a long-term basis.

Senator MELCHER. I have a figure of about 70 cents average. Would that be a ballpark figure?

Mr. GARIBALDI. I think it is a good ballpark figure for a long term—I don't want to speculate, because I am not up on top of those numbers, but it is a good ballpark figure, for the long-term costs of going through the Panama Canal, as opposed to using the Long Beach to Midland pipeline system.

Senator MELCHER. Long term?

Mr. GARIBALDI. Correct.

Senator MELCHER. Chairman Magnuson, the chairman of this committee, used that figure and it is probably the average. I have heard so many other figures. I think Senator Bayh mentioned it might cost an additional \$2 or \$3, which you have to examine in terms of just what he meant. It might be an additional \$1.50 or something to go from Long Beach, through the canal, to Galveston or Houston, but that would not include what you have included, which is the more realistic way of also portraying what the tariff would be through the pipeline itself.

Mr. GARIBALDI. The sort of parameters that have to be looked at in why the figures do range is what sort of rate of return does impute to the capital involved in the ships, optimized-sized ships used over the long term, that—

Senator MELCHER. All of the ships are U.S. ships, because it is a matter of the Jones Act, and furthermore a requirement of the act itself.

Mr. GARIBALDI. Yes.

Senator MELCHER. Now, you also would visualize moving other than Alyeska crude through the pipeline?

Mr. GARIBALDI. I do not believe in the Long Beach to Midland pipeline. There might be instances, specific instances, where particular refineries along the route of the pipeline, might have a need for a crude of a quality other than that represented by Alaskan crude, so there is a possibility that crude other than Alaskan crude could be moved through the pipeline.

Senator MELCHER. Which would be domestic or foreign crude?

Mr. GARIBALDI. Right. Basically, it would be a unique situation and on which would not be expected to be a long term sort of situation right now. Basically the line is designed for Alaskan crude. That is the crude which we anticipate will flow almost exclusively through it. It is a common carrier line, however.

Senator MELCHER. Yes. And the shipper could require the type of crude they wanted and take advantage of the line, since it is common carrier?

Mr. GARIBALDI. Yes. Basically, the economics are what provide incentive to really use the line exclusively for Alaska crude.

Senator MELCHER. My recollection was that all of the owners of North Slope crude, all of the proposed owners of the Alyeska pipeline, State of Alaska, the Natives, agreed with provisions of the Taps Act, the Trans-Alaskan Pipeline Act, down to and including the equitable distribution of the Alaskan crude oil as a requirement of the opportunity for using the pipeline for transportation purposes.

If Sohio's pipeline were built, and Northern Tier's were not built, and Trans-Mountain reversal proved to be either not possible because of both United States and Canadian Government resistance, or because of the economics of cost of moving the oil through it were not favorable, wouldn't we be shortchanging that equitable distribution part of the act, and not allowing States like Northern Tier States and possibly Midwest States, getting access to that crude?

Mr. GARIBALDI. I don't know if I can respond to that question. I am not sure how one would interpret the equitable distribution of that oil. Obviously, on the extreme, one would say every refinery in the United States should run the same percentage of Alaska crude oil, but I don't think that was the intent of the bill, so at one extreme that would be an interpretation.

The other extreme would be that it would be made available to some percentage of the country, or something. The Sohio project, from Long Beach to Midland, does provide access to some 65 percent, direct access to some 65 percent of the refineries in the Midwest from Midland. In addition, I think there is another 10 or 14 percent represented on the west coast, so the total through this project, perhaps 80 percent of the entire U.S. refining system is being provided some access to Alaskan crude oil. I don't know what interpretation will be placed on that, as far as—

Senator MELCHER. I can tell you some of the interpretation.

Mr. GARIBALDI. I believe I can, too.

Senator MELCHER. And I have my own personal interpretation but I can tell you what I think was the New England caucus view on it at the time they insisted on the amendment, which was readily ac-

cepted by the House of Representatives and was accepted by the conference committee and became part of the law, it wasn't a concern in their case of direct distribution of the Alaska crude to refineries in their particular region but it was their concern that the distribution of the crude would be so broad as to affect favorably the availability of supply in their region.

I believe it was a reasonable request on their part, and now, as I view it, it was one that represented quite a bit of foresight on their part. The question then arises, that in order to satisfy the needs of refineries in the Midwest, perhaps additional pipeline capacity is necessary north and south. Is that Sohio's position?

Mr. GARIBALDI. That there will be additional pipeline capacity needed to serve the Midwest, yes, we believe that will be a requirement.

Senator MELCHER. Does it figure the pipeline mentioned on exhibit 5 of Mr. Curran's testimony, on behalf of Northern Tier, where they refer to a new pipeline from Cushing to Chicago, is that a necessary pipeline to satisfy the current or at least the projected needs of Midwest refineries?

Mr. GARIBALDI. There are a number of means available to supplement the increased transportation requirements for serving the Midwest. A line from Cushing, which ultimately would get supplies either from Midland and/or through the gulf coast, a line from the gulf coast in Louisiana, up to Chicago, and, in fact, the Northern Tier Pipeline itself supplies an increased capability of delivering water-borne crude, if you will, into the Upper Midwest. It does supply a transportation need which exists. It is one alternative and we believe it perhaps might be a very good alternative.

We have been supportive of the concept of a northern pipeline and remain so. We think it can properly address two issues. One is the need for additional crude delivered into the Midwest, and second, the need for a system to service the Northern Tier States. Either one of those aspects alone might not justify such a line but perhaps coupled together, they do provide a sufficient incentive to build such a pipeline.

Senator MELCHER. Mr. Garibaldi, you are one—despite your obvious youth—of the recognized figures of what tariffs are on pipelines throughout the United States in transporting of oil.

Mr. GARIBALDI. That recognition is not deserved, sir.

Senator MELCHER. Well, we are going to accept it right now.

First of all, equitable distribution of the Alaskan crude supplies could be admittedly served through the New England area and to the east coast area by putting crude over into Midland and down, to be refined in the gulf, and then putting it in the Colonial products line that Mr. Curran described and shipping it up there, if the cost structure was favorable and competitive.

Now, I am assuming that you have gone through all these figures and you feel that it will be arriving there, a refined product, at competitive prices?

Mr. GARIBALDI. Where?

Senator MELCHER. On the east coast. Let's take New Jersey, Philadelphia, and whatever Colonial serves.

Mr. GARIBALDI. I guess our feeling is that will not occur.

Senator MELCHER. That will not occur. Then I will let you tell me how putting oil into Midland is going to help equitable distribution.

Mr. GARIBALDI. As I view the situation, there is a net supply of crude oil available to the United States, and it's available at different points. Some available in Alaska, some in Louisiana, some available in Texas, some in California offshore, Illinois, and so forth. That the net, the lowest cost production to the consumer, is achieved by providing a distribution system which gets the oil, the total supply of oil which is dislocated from the market, to the market at the lowest cost; and that requiring an oil which is located on the upper part of the west coast in Alaska to service directly in kind a market on the eastern coast of Maine is not—will not provide the lowest cost product to the consumer.

That does not say that the oil available in Alaska does not support Maine's product requirements, because it's a very integral part of the total crude oil supply available to the United States. So providing that crude oil to the best market which it can serve does indeed indirectly provide substantial benefits to the whole country, and indirectly services Maine's requirements as well. But it does not say that that oil has to flow to the east coast or Maine.

Senator MELCHER. The Senators from Minnesota, Illinois, and the Senators from Ohio, among others, are going to ask me: What is the practical solution for keeping their refineries in operation?

Now, if I mention to them that it's necessary to have more north-south pipelines in order to satisfy the needs of those refineries in the Midwest, I also have to mention what projected tariffs are, because the competitive situation for an individual refiner is going to remain the same if we don't delve too much into the affairs of business of oil companies and oil refineries, through Government, and don't change the ballgame too much.

But if we continue to have the type of availability of distribution and availability of pricing that is now in effect, and I say to them, in order to keep your refineries going, from domestic supply, from Alaska, you are going to have to have some available north-south pipelines to get that part that goes through Sohio's new pipeline to Midland, is it fair to say that the tariffs are going to be increased to the extent it goes through those new pipelines?

Mr. GARIBALDI. The extent that newer pipelines cost more than pipelines built some years ago, obviously tariffs will increase. Whether or not that will reflect itself in the high-priced crude oil is another issue of the marketplace.

For instance, Alaskan crude is going to have to compete with foreign crude regardless of where—

Senator MELCHER. Where it's used.

Mr. GARIBALDI. Wherever it's used. So one cannot count on recovering the cost of transportation because you still have to compete with foreign crude oil.

I can't respond directly to what I think we are getting toward, which is a discussion of what the future transportation systems might be in the Midwest area. It's a very complex issue and one in which there is not agreement on, even within our own company, on what future will develop or what the correction solutions will be.

**Senator MELCHER.** I have been, perhaps in a very roundabout way, leading up to a question. Do you take issue with the projected tariff from Valdez to Chicago of \$2.63, if it went through this new line from Cushing to Chicago?

**Mr. GARIBALDI.** I have just seen that figure. I neither take issue with it, or support it at this point. I would comment in general that the northern pipeline system and the southern pipeline system are different systems. They are designed to serve different markets and they will handle a different mixture of crude oil.

The northern system will handle Indonesian as well as Alaskan. The southern will handle almost exclusively Alaskan. It will primarily be placed in southern refineries, and other crude will be displaced up to the Midwest.

So to take a specific point and to compare tariffs from one system to another, when the two systems are not designed to reach that point as an objective, is not a useful comparison of the two systems. I guess I don't know. I haven't looked to see if the tariffs themselves are accurate or consistent with our viewpoints on them, but it's not a—in general, it's not an accurate means to depict the economic comparison.

**Senator MELCHER.** Yes; I understand there are many factors that would be involved in what a final tariff would be. I think the amazing part has been developed, both in the case of Sohio and Northern Tier, is that comparatively these are very fine, decent projected tariffs for transporting oil long distances. And that is reassuring.

Now, the terrible part of it is: Even though it's reassuring from the objectivity of trying to move crude supplies to where it's needed at reasonable prices, we are hamstrung by State and Federal requirements.

I am pleased that even though you seem to indicate a further delay than what Mr. Quinn mentioned in August, it is not an interminable delay. You only mention another 60 or 90 days, when you get yes or no out in California. I am pleased at what Federal officials have been saying in the case of Sohio's application on Federal permits, and which I can feel pleased about the stage that Northern Tier's application is in, regarding Federal permits.

Unfortunately, you can't feel too pleased, because it looks like if we don't have a bill such as we have been discussing, that it could go on for another 2 years. I think that delay would be of great damage, not only to my State and neighboring States but also great damage to a lot of other regions serving quite a few millions of people in this country.

So your testimony and position on behalf of Sohio supporting the bill under the terms of the amendment offered—which in my view does not distort the goals of the bill at all, but really further clarifies the goals of the bill—is very much appreciated.

I think I should also state that your colleague company—ARCO's position of being interested in Northern Tier's success, that can come about; and Sohio's success in their proposals is a good solid position and one that I very much appreciate, too.

If the issue is, as it has been in the past few years in the public mind, on whether or not oil companies are attempting to solve transportation problems involved with Alaskan production, I think these hearings

demonstrate clearly that, yes, the owners of the Alyeska Pipeline and North Slope crude are indeed sincere in wanting to solve the transportation problems and have offered constructive solutions for that.

Now, I wish you all good luck in your further proceedings. Thanks for your support of the modified S. 1868. I hope you can also assist in providing information of a factual nature relating to the issues so the people in Congress, both in the House and Senate, can understand how urgent it is. And you might also do some missionary work with the people downtown, too.

Mr. GARIBALDI. I certainly will. Thank you very much.

Senator MELCHER. Thank you very much, Mr. Garibaldi.

We have a telegram from Governor Link of North Dakota, expressing North Dakota's continuation of their longtime support for the Northern Tier oil pipeline. Now, he expresses the feeling that a distribution must be made quickly to facilitate the flow of crude oil directly to the Northern Tier States. —

We will make that a part of the record.

The committee will be in recess, subject to the call of the Chair.

[Whereupon, at 1:20 p.m., the hearing was recessed, subject to the call of the Chair.]



## ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

STATEMENT OF HON. THOMAS L. JUDGE, GOVERNOR, STATE OF MONTANA

Mr. Chairman, distinguished members of the committee, I am pleased to have the opportunity to present written testimony on S. 1868 as introduced by Senator John Melcher of Montana. The supply of refinable petroleum is the subject of serious discussion in my state, as well as neighboring northern tier and other inland states.

On July 1 of this year, the Canadian National Energy Board reduced Montana's light crude oil allocation by 25 per cent. On January 1 of next year, our Canadian allotment will be reduced by another 39 per cent. By 1980, Montana refineries will not receive any Canadian crude. This action, which appears to be irreversible, poses a critical threat to the continued operation of Montana's refineries and the 2700 jobs directly provided by them. By next summer, Montana, Eastern Washington, and Northern Idaho may, as a result, face severe shortages of gasoline and diesel fuel. Projected deficiencies of refinable petroleum in the Northern Tier states—an area isolated because of its remoteness from large capacity pipelines connecting coastal points with interior states and refining centers' oil pipelines—are threatening our agriculture, tourism and other industries.

Late last month, we learned that Texaco is pulling out of the gasoline business in Montana, Northern Idaho, Eastern Washington, and North Dakota. I have been advised that the decision was made primarily as a result of the shortage of Canadian crude. Even as you consider S. 1868, the Federal Energy Administration is considering several short-term solutions which superficially address the crude oil supply problem in the Northern Tier states.

The FEA, in a study submitted to Congress in 1977 (Petroleum Supply Alternatives for the Northern Tier States Through 1980), concluded that Montana and Eastern Washington may experience a shortfall of 28.6 thousand barrels per day (MB/D) and 9.6 MB/D respectively in 1978. By 1980, the product shortfall in Montana may increase to as much as 31 MB/D in 1979 and 48.6 MB/D by 1980. The agency's study also indicated that certain refineries that are heavily dependent upon Canadian feedstocks may not be able to obtain sufficient supplies from alternative sources to remain economically viable. I must seriously question whether Montana's three major refineries can continue to operate at 60 to 65 per cent capacity. Unless the availability of Alaskan crude can be guaranteed to our states in the very near future, the outlook continues to decline, and the grim realities of a petroleum-deficient economy become imminent.

For nearly five years, this nation has awaited the first production of Alaskan crude. During the past two years, the figures projecting a west coast crude surplus have grown to somewhere between 400 to 600 thousand barrels, and yet this country still does not have a viable distribution system anywhere near a delivery-ready state. Unfortunately, today, we are considering legislation which at best should have been considered during the debate and expeditious action on the Trans-Alaskan pipeline.

Mr. Chairman, the crude oil supply situation in the Northern Tier area is extremely serious and should not be considered lightly. I support S. 1868 as a means of expediting certain federal responsibilities. Congressional precedent for limiting judicial review, the establishment of critical timetables to be met, not pushed back, and the granting of permits, necessary rights of way, leases and other authorizations have been well established by your action in the Trans-Alaskan pipeline and the Alaskan Natural Gas Transportation Act of 1976. The sponsors of S. 1868 have fairly recognized the effect federal regulatory delays could have on the Northern Tier states.

I would be remiss if I did not also concede that several of our states must also be cognizant of state regulatory delays, and we must take action to address those problems.



Already in Montana, plans are underway to expedite action, while meeting all legal requirements, to permit the all-American oil pipeline distribution system known as the Northern Tier Pipeline. As you well know, considerable discussion has already taken place in the State of Washington regarding the location of a crude oil port facility. I am closely monitoring the Washington process, for action or inaction in that state may well become the critical factor in determining the crude supply future for my state should S. 1868 become law.

Chairman Magnuson, I have long supported the Northern Tier proposal as the cheapest means of bringing Alaskan crude to the Northern Tier and Midwest markets. I have taken this position for several reasons.

First, transportation costs for shipment of oil over the Northern Tier Pipeline to U.S. refineries would be paid to U.S. companies and would not adversely affect the national tolerance of payments.

Second, the advantages of an embargo-proof crude oil supply system completely under U.S. control are numerous and obvious. In the event of interruption of flow from pipelines in the Southwestern United States (such as the SOHIO Project) the Northern Tier Pipeline could deliver oil from Alaska or other sources.

Third, during construction of this pipeline system, an average of 4,260 personnel would be employed over the eight to twelve month construction period. Another 275 would be employed over an 18-month period for the marine terminal. Approximately 130 million dollars would be paid out in wages and salaries. Equipment and material manufacturing would generate additional jobs. Manufacturers of pipe and steel for tanks, for example, would generate nearly 4,000 jobs for one year.

During operation of the pipeline, 130 individuals would be employed with annual wages and salaries in excess of two million dollars. Sales and use taxes for the total project are projected to be in excess of 23 million dollars, while annual property taxes for the total project are estimated to be over 16 million dollars.

Last, and most important for our states, the pipeline would guarantee our region an uninterrupted, economical means of keeping adequate petroleum supplies moving into our refineries, and products flowing out into the economy. Enactment of the National Crude Oil and Supply Transportation Act of 1977 would greatly reduce the uncertainty now present and would allow the private and public sector to get with the job at hand.

In summary, I support S. 1868, and urge prompt action to adopt the basic provisions of Senator Melcher's legislation. As Governor of a state highly dependent on petroleum supplies from outside our boundary, I pledge my support and assistance in resolving in an equitable and expedient manner all actions, federal and state, necessary to meet the critical crude oil supply and demand situation facing the Northern Tier region.

Thank you.

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[TELEGRAM]

BISMARCK, N. DAK., *September 13, 1977.*

**Mr. CHRIS O'NEILL,**  
U.S. Senate Commerce Committee,  
Washington, D.C.

North Dakota continues its long-time support for the Northern Tier Oil Pipeline. Extensive examination has shown that no other system would be capable of supplying the oil needs of our State.

We feel that a decision must be made quickly to facilitate the flow of Arctic crude oil directly into the oil deficient Northern Tier States.

**ARTHUR A. LINK, Governor.**

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**STATEMENT OF MR. LAWRASON D. THOMAS, VICE PRESIDENT, OPERATIONS PLANNING AND TRANSPORTATION, AMOCO OIL CO.**

In response to a request for industry opinion regarding the anticipated crude oil shortfall in the Upper Midwest and possible transportation solutions to that shortfall, Amoco Oil Company, a subsidiary of Standard Oil Company (Indiana), submits the following remarks.

Within the oil industry there is some controversy as to the magnitude of the projected Northern Tier crude oil shortage. We believe there is no disagreement that the existing pipelines that can move Alaskan or imported crudes to alleviate the shortfall in the Midwestern and Northern Tier States cannot accommodate peak demands.

One scenario that Amoco projects indicates that the crude oil shortfall in this area may be more than 500 thousand barrels of oil per day by 1980 and perhaps double that amount by 1985. There are 35 oil refineries in the Northern Tier with a combined daily crude processing capacity of 2.3 million barrels of oil. The shortfall is expected to be about a fifth of the refineries' capacity.

The problem in this area is precipitated by several factors. One is that northern U.S. refineries can no longer depend on processing Canadian crude because the Canadians have adopted a national policy to phase out crude oil exports to the U.S. by the mid 1980s. Also, crude production in the northern U.S.—particularly North Dakota and the Rocky Mountain States—is not expected to keep pace with demand and crude shortages are forecast.

The alternative of added supply from the Gulf Coast is not feasible because these pipelines are fully loaded and not susceptible to further significant expansion other than by construction of a new pipeline.

Of the possible alternatives, Amoco believes that the most efficient and feasible proposal is the construction of a Northern Tier pipeline. It could provide access to both foreign and surplus Alaskan crude oil at the lowest cost of all transportation options to Midwestern and Northern Tier refiners.

The Northern Tier proposal calls for construction of a common-carrier, crude oil pipeline from a port in Washington State to Clearbrook, Minnesota, passing through Washington, Idaho, Montana, North Dakota, and Minnesota. The pipeline would be supplied by tankers using a deepwater port facility in Washington which could receive crude oil from Alaska and foreign sources.

Amoco, along with seven partners, completed a partnership study agreement which served as the basis for our company's opinion. However, recent conditions dictated that Amoco terminate its financial contributions to the project. This was done, reluctantly.

There were several reasons for our withdrawal. For one thing, changes in demand projections, due to the Carter Administration's emphasis on conservation, could sufficiently reduce Upper Midwest crude oil demand to substantially alter project economics.

Secondly, we found it difficult to encourage other companies to join in the venture due to the tremendous amount of capital necessary to undertake the project. The estimated cost of the line is \$1.2 billion, a sum too large for any single company to underwrite. Amoco was prepared to take a fair share. However, since we announced our participation efforts in the study in May, we have been unable to generate additional firm support from shippers who have the financial resources to build a pipeline.

Uncertainties and changes in government policy regarding pipeline ownership by integrated oil companies, tariff structures, crude oil pricing and exchanges with foreign governments make it difficult for our company and others to commit for future expenditures of the magnitude required by the Northern Tier Project. Industry pleas over the last half decade for a firm federal energy policy and pricing stability have not been heeded by the federal government. The existing uncertain regulatory climate makes it extremely risky for any company to commit itself to such a large investment.

In particular, the recent action by the Interstate Commerce Commission in suspending the Trans-Alaska pipeline tariffs and arbitrarily imposing lower tariffs has cast serious doubts about the economic viability of any new major pipeline project.

Recently introduced federal legislation would also prohibit or limit oil industry joint ventures and pipeline ownership by integrated companies such as Amoco. The possibility of this legislation being enacted makes it extremely difficult to obtain the tremendous capital necessary to undertake the Northern Tier project.

Other unresolved problems associated with the project, such as issuance of federal and state permits and approval of a Washington State port facility, probably are surmountable although getting resolution in a workable time frame could be a problem.

Amoco is now studying various options for supplying its customers in the Northern Tier and Upper Midwest States if the Northern Tier line is not built.

While Amoco is confident that such supply arrangements can be worked out, transportation costs, ultimately borne by consumers, would be higher if any of these options is employed.

We feel that the federal government can best serve the interests of fuel consumers in the Upper Midwest and Northern Tier states by enacting legislation which results in a sound national energy policy. Specifically, we hope that legislation can be passed which supports private investment in projects such as Northern Tier and which assures pipeline owners that they can establish tariffs which allow them an adequate return on their investments.

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